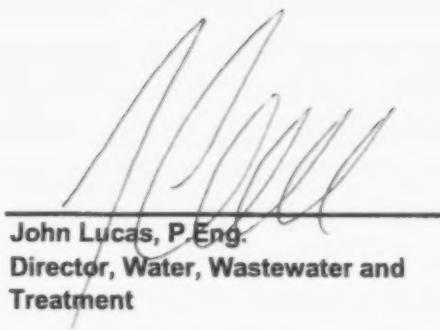


**Wastewater and Treatment**  
**2014 Operating and Capital Budgets**  
**and**  
**Forecasts**

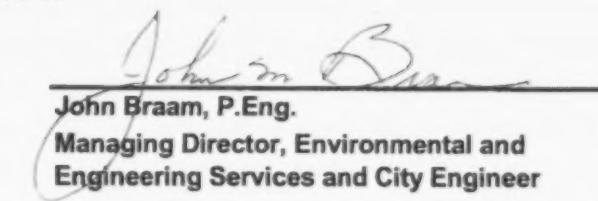


John Lucas, P.Eng.  
Director, Water, Wastewater and  
Treatment



**London**  
CANADA

**Approved**



John Braam, P.Eng.  
Managing Director, Environmental and  
Engineering Services and City Engineer

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## Wastewater and Treatment 2014 Budget and Forecast

### **RECOMMENDATIONS**

That, on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to the 2014 Operating Budget, 2014 Capital Budget and associated forecasts for Wastewater and Treatment Services:

- (a) the 2014 Operating Budget for Wastewater and Treatment Services **BE APPROVED** as submitted;
- (b) the 2015 - 2018 Operating Forecast for Wastewater and Treatment Services **BE RECEIVED** for information;
- (c) the 2014 Capital Budget for Wastewater and Treatment Services **BE APPROVED** as submitted;
- (d) the 2015 - 2023 Capital Forecast for Wastewater and Treatment Services **BE RECEIVED** for information;
- (e) all rates and charges related to the provision of Wastewater and Treatment Services **BE INCREASED** by 7%, effective January 1, 2014; and
- (f) the proposed by-law to amend the Wastewater and Treatment Rates and Charges By-law **BE INTRODUCED** at the Municipal Council meeting on December 3, 2013 to effect the rates and charges noted in (e), above.

Bill No. 20  
2014

By-law No. WM-28-14001

A by-law to amend By-law WM-28 entitled, "A by-law for regulation of wastewater and stormwater drainage systems in the City of London."

The Municipal Council of The Corporation of the City of London enacts as follows:

1. Section 1 of Schedule A of By-law WM-28 is amended by deleting the existing table and replacing it with a new table as follows:

Range within Block (m <sup>3</sup> )	Monthly Water Consumption (m <sup>3</sup> )	Rate (\$/m <sup>3</sup> )
0 - 7	First 7	-
8 - 15	Next 8	\$1.6609
16 -25	Next 10	\$2.1355
26 - 35	Next 10	\$2.3728
36 - 250	Next 215	\$0.9016
251 - 7,000	Next 6750	\$0.8542
7,001 - 50,000	Next 43,000	\$0.7783
50,001+	Over 50,000	\$0.6929

2. Section 2 of Schedule A of By-law WM-28 is amended by deleting the existing table and replacing it with a new table as follows:

Meter Size (mm)	Monthly Charge (\$)
16	\$11.11
19	\$16.66
25	\$27.76

40	\$55.51
50	\$88.82
76	\$194.29
100	\$333.07
150	\$777.17
200	\$1,332.29
250	\$1,665.83

3. Section 3 of Schedule A of By-law WM-28 is amended by deleting the existing table and replacing it with a new table as follows:

Effective Date	Property Type & Size	Storm Drainage Charge (\$/Month)	Storm Drainage Charge (\$/hectare/Month)
January 1, 2014 to December 31, 2014	Residential, Land area equal to or below 0.40 hectares	\$13.78	
	Institutional, Land area equal to or below 0.40 hectares	\$13.66	
	Commercial and Industrial, Land area equal to or below 0.40 hectares	\$14.78	
	Industrial, Land area above 0.40 hectares		\$112.68
	Residential, Institutional, Commercial, Land area above 0.40 hectares		\$75.12
Effective after January 1, 2015	Residential, Land area below 0.40 hectares without storm sewer within 90m of property	\$10.15	
	Land area below 0.40 hectares	\$13.55	
	Land area above 0.40 hectares		\$112.68

4. Section 4.1 of Schedule A of By-law WM-28 is amended by deleting the existing table and replacing it with a new table as follows:

Type of Sewer Connection	Frontage Charge (\$ per metre of calculated frontage)
Sanitary Sewer	\$206.62
Storm Sewer – Residential	\$191.29
Storm Sewer – All Lands, excluding Residential	\$382.57

5. Section 4.3 of Schedule A of By-law WM-28 is amended by deleting the existing table and replacing it with a new table as follows:

Type of Waste	Rate (\$ per 1,000 litres)
Hauled Liquid Waste, excluding Leachate	\$11.77
Leachate	\$21.66

6. Section 4.4 of Schedule A of By-law WM-28 is amended by deleting the existing table and replacing it with a new table as follows:

Type of Service	Rate (\$ per m <sup>3</sup> )
High Strength Sewage Service	\$0.545

7. This by-law comes into force and effect on January 1, 2014.

PASSED in Open Council December 3, 2013

Joe Fontana  
Mayor

Catharine Saunders  
City Clerk

First Reading – December 3, 2013  
Second Reading – December 3, 2013  
Third Reading – December 3, 2013

## **Wastewater and Treatment 2014 Budget and Forecast**

### **EXECUTIVE SUMMARY**

The approved 2014 Wastewater and Treatment operating and capital budget continues along the path toward financial sustainability<sup>1</sup>, which is now forecasted two years sooner than previously projected. Administration has prepared the 2014 operating and capital budget based on the financial sustainability plan endorsed by Council during the development of the 2013 budget. A 7% rate increase is required for 2014.

The 20 Year Sewer System Plan was developed taking into account the City's current sewer system needs, its debt and financing capability and the need to move to sustainability as per the anticipated requirements of the province's Water Opportunities Act 2010.

The average cost to the homeowner for 2014 will increase by \$28 per year (based on projected 2013 consumption of 181.2 m<sup>3</sup>). At the approved rates for 2014 the homeowner's cost for the year will be \$464 or \$1.27 per day for sanitary and storm sewers, stormwater management and wastewater treatment services.

The 20 Year Sewer System Plan and the resulting annual operating and capital budgets continue to support the mandate of the Wastewater and Treatment Service Area which connects well with the City's Strategic Priorities as follows:

<b>City's Strategic Priorities</b>	<b>Wastewater &amp; Treatment Mandate</b>
A Green & Growing City	Protect Our Environment
A Sustainable Infrastructure	Invest in Our Community
A Strong Economy	Undertake Responsible Long Term Planning

### **Financial Overview**

The approved 2014 Wastewater and Treatment budget presents a balanced cost/revenue plan in the amount of \$84.5 million. The approved operations portion of the operating budget of \$35.6 million represents a 0.6% decrease from 2013.

<sup>1</sup> Financial Sustainability is defined as the movement toward annual rate increases that can be maintained at or near the annual rate of inflation based on a combination of CPI and the Construction Price Index with appropriate use of debt financing, adequate reserve funds and the appropriate investment in capital.

## **Wastewater and Treatment 2014 Budget and Forecast**

A \$581 thousand decrease in customer service costs has been partially offset by small increases in personnel costs, purchased services, as well as a transfer of \$157 thousand in administrative expenses from Water to Wastewater and Treatment to move to full cost accounting for the utilities.

Administration continues to strive to eliminate waste, improve efficiencies, and utilize new technology in an effort to minimize operational costs.

Debt servicing costs are projected to increase from \$13.3 million to \$13.7 million and capital funding has been increased by \$5.3 million to \$35.2 million. It should be noted that at the current recommended rate increases there is no new rate supported debt anticipated with debt payments peaking in 2014 from previously approved debt. This further supports the position that Wastewater and Treatment is nearing financial sustainability. The Wastewater and Treatment Service Area continues to build its reserves in accordance with the 20 Year Sewer System Plan and this will continue to be a high priority going forward. Refer to pages 66-69 for the reserve funds used by Wastewater and Treatment.

A new “Value of Water” funding model was implemented in 2013. The new rate structure addresses the inconsistencies and inequities of the previous rate structure, while also promoting conservation efforts and supporting economic development initiatives. The new rate structure has also enabled financial sustainability at inflationary levels to be projected two years earlier than previously forecasted. This will result in lower future rate increases and ultimately lead to lower costs for ratepayers.

While the new funding model shifts a greater proportion of revenues to fixed charges, the utility remains susceptible to future water consumption declines. Any future declines in excess of those that are forecasted may result in adjustments to the sources of financing for the operating and capital plans. All major cost factors are monitored and evaluated against 20 year plan forecasts within each budget cycle.

**Wastewater and Treatment  
2014 Budget and Forecast**

*Exhibit 1*

<b>Explanation of Changes in Expenditures</b>	<b>Change (\$000's)</b>
Decrease in billing and customer service costs, driven by a reduction in the amount budgeted for billing services provided by London Hydro as a result of the Service Agreement negotiated in 2013.	(581)
Increase in personnel costs attributable to wage, salary & benefits adjustments in accordance with existing employment agreements.	182
Increases in purchased services, materials & supplies, and administrative expenses, offset by a small reduction in equipment & rentals. The administrative expenses increase includes \$157 thousand related to the move to full cost accounting through a transfer of an additional share of other administration costs from Water to Wastewater and Treatment.	173
<b>Operating Related</b>	
Increase in contributions to reserve funds to reflect changes to the 20 year plan and objective of maintaining sufficient reserve fund balances to support an estimated asset base of \$4 billion.	3,481
Increase in capital levy required to fund the life cycle renewal project budget. This increase is necessary in order to progress towards achieving the target of 75% of future life cycle projects funded on a pay-as-you-go basis, consistent with the Financial Plan.	1,800
Increase in cost of debt servicing related to previously approved capital projects.	416
<b>Capital Related</b>	
<b>Total Change in Expenditures</b>	<b>5,471</b>

## **Wastewater and Treatment 2014 Budget and Forecast**

The financial model and 20 Year Sewer System Plan are based on specific assumptions. If these assumptions change, then the sustainability of the wastewater system could be affected positively or negatively. Factors in the model which could impact revenues or expenditures are identified below:

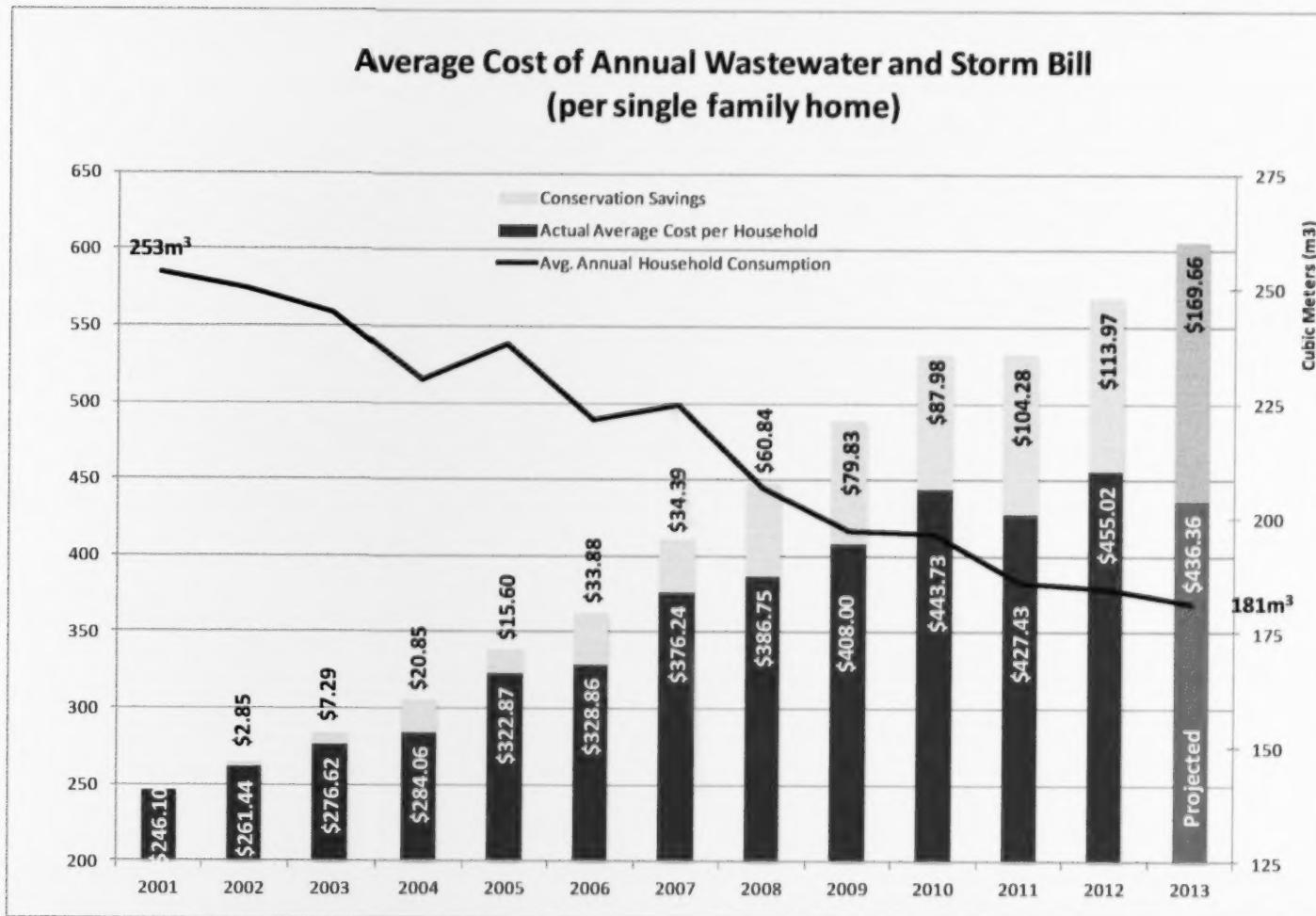
- a. Water consumption – wastewater revenues are directly tied to the amount of water the City sells to its customers. Declining consumption is forecasted in the model (due to conservation or reduced industrial production) even though the number of customers and businesses are forecasted to increase. Consumption was decreased for the 2014 budget based on recent trends, best practices in forecasting and anticipated reductions resulting from more efficient plumbing fixtures. In past years the actual decline in consumption has significantly exceeded assumptions in the model and so the projected consumption has been adjusted accordingly for 2014;
- b. Consumer price index and construction cost index – construction, administration and operational costs are assumed to escalate at a blended rate of 3% in the model. Higher construction cost escalation might require that annual rate increases need to be higher than 3% to ensure sustainability since the buying power of the dollar is reduced. Conversely, if inflationary pressures are minimal, rate increases of less than 3% may be sufficient;
- c. New revenue sources – the addition of new revenue sources would have a beneficial impact on achieving and maintaining financial sustainability; and
- d. Introduction of innovative, cost-effective technologies which may extend the life of existing infrastructure beyond current assumptions.

### **Water Consumption and Conservation**

Average household water usage in London has declined by 28% from 2001 to 2013. The graph below (Exhibit 2) illustrates Wastewater and Treatment costs for the average household. This reduction has made capacity available within some treatment plants to handle more wet weather flows and to defer growth expansion capital costs.

## Wastewater and Treatment 2014 Budget and Forecast

Exhibit 2



## **Wastewater and Treatment 2014 Budget and Forecast**

There are a number of influencing factors responsible for this conservation trend. Although the impact to revenues is negative, the overall trend of water consumption declines should be seen as a positive and should be encouraged. It leads to lower operating costs where they relate directly to the volume of water consumed, and reduced capital costs through deferral and lower design criteria.

It is anticipated that the final billed volume for 2013 will be less than budgeted. 2014 projections have been updated to reflect a greater-than-anticipated reduction in consumption. The 2013 budget was based on volume (billing volume excluding the sanitary exemption) of 43.2 million cubic metres (Mm<sup>3</sup>) which is being reduced to 41.0 Mm<sup>3</sup> for the approved 2014 budget. This represents a consumption and conservation reduction of 5.1% which has been absorbed into the revenue projections for 2014.

### **Rate Increases Needed to Sustain the Utility**

Administration is recommending 7% rate increases in 2014 and 2015 and return to the rate of inflation thereafter (the long-term rate forecast is detailed in Exhibit 3). This would enable the sewer system to reach financial sustainability by 2016 which is two years earlier than previously forecasted. The projected rate increases are based on an anticipated net consumption reduction of 1% (assuming a 1% growth factor and an average consumption reduction of 2%) until 2021 and an anticipated net consumption reduction of 0% (assuming a 1% growth factor and an average consumption reduction of 1%) thereafter.

It should be noted that projections are based on best available information at this time. Changes in the economic climate, legislative requirements, and water consumption trends are monitored and evaluated annually to ensure sustainability is secured for the future.

## **Wastewater and Treatment 2014 Budget and Forecast**

*Exhibit 3*

<b>Long-Term Rate Forecast</b>		
<b>Year</b>	<b>Rate Increase Required</b>	<b>Net Consumption Impact</b>
2014 - 2015	7%	-1%
2016	3%	-1%

### **Capital Program**

The approved 2014 capital budget of \$65.7 million (Exhibit 4) is supported by a combination of reserve funds, capital levy, debt and contributions from non-rate supported sources such as Development Charges and Federal Gas Tax, and is consistent with the 20 Year Sewer System Plan.

The 2014 capital plan addresses needs which have been identified through the sewer inspection program and engineering studies on growth, such as the Sanitary and Storm Sewerage Master Plan updates, and the 20 Year Sewer System Plan. Future investments will also be identified when the Pollution Prevention and Control Plan is completed in 2017. This plan works within the constraints of the debt servicing ratio, gradually increasing the pay-as-you-go funding for life cycle replacement, and slowly growing the reserve funds. This balanced approach fulfills the regulations of the *Water Opportunities Act 2010*.

*Exhibit 4*

<b>2014 Wastewater &amp; Treatment Capital Plan Summary</b>		
<b>Category of Project</b>	<b>Total (\$000's)</b>	<b>Percentage</b>
Life Cycle Renewal	19,192	29%
Growth	34,956	53%
Service Improvement	11,510	18%
<b>Total</b>	<b>65,658</b>	<b>100%</b>

## **Wastewater and Treatment 2014 Budget and Forecast**

The major projects in each category are detailed below.

### **Life Cycle Renewal:**

Life Cycle Renewal is a key component to sustainability and ensuring a well-functioning Wastewater and Treatment system. The City's sewer system has an approximate current replacement value of \$4.0 billion. Significant needs have been identified in the system to improve on service reliability and environmental impact. Developing strategies and finding solutions is required over the short and long term to ensure the City obtains maximum value for investments made. Funding for implementation of programs has gradually been increased over time to address some of these system needs while meeting existing and future regulatory requirements.

#### **ES2414-14 Sewer Replacement Program - \$10.5 M**

The sanitary and storm infrastructure life cycle renewal program is an annual program intended to manage and ultimately maintain our sewer infrastructure at an acceptable level. The program is integrated with other service areas within the organization and utilizes best management practices in an effort to return functionality to a wastewater system or subsystem. Systematic reinvestment in this burdened infrastructure is a critical and cost effective approach to maintaining its functionality and to meet the changing needs as a community grows and matures. The decision-making process for determining the proper balance of repair, renewal, and replacement is a function of the condition assessment, the life cycle cost of the various rehabilitation options and the related risk reductions. Sewers are generally replaced on a priority basis, based on age, material, condition and capacity. Replacement of combined sewers is also a high priority. Sewers in need of remediation are either fully replaced or spot repaired in conjunction with other service and utility upgrades in selected areas. In some cases, promising, innovative technologies are used to replace or repair infrastructure at a reduced cost.

## **Wastewater and Treatment 2014 Budget and Forecast**

### ES2693-14 Specialized Sewer Repairs - \$4.7 M

Sewer relining uses a polymer soaked felt tube cured by steam or hot water to create a new pipe within the old pipe without expensive and disruptive excavation. The work takes about 5 hours per sewer run (100m) and consists of lining the sewer with a 1 to 2cm thick polymer lining and then cutting the service connections with a track mounted robot. Sanitary service connection will be blocked during this time which requires residents to minimize water usage. Both storm and sanitary sewers can be relined in full or in short sections which adds 50 years to their lifespan. The City also undertakes relining and other trenchless methodologies for manhole repairs, sewer spot repairs and watermain relining. The benefits of trenchless technologies are the capital cost savings because the road does not need to be excavated, the minimized social cost in terms of disruption (i.e. 1 day as opposed to 4 months), and the environmental benefit of not requiring new materials.

Wastewater and Treatment is proactively relining sanitary and storm pipes greater than 100 years old that are suitable for relining. In addition there are 7.7km of old brick sewers that have been analyzed and prioritized to be addressed over the next 15 years. Pipes in the 80 to 100 year period that are currently in good condition will be carefully monitored to ensure that appropriate pipes are relined at the right time. This will significantly improve the life expectancy of the City's oldest pipes enabling the City to defer associated reconstruction costs for many years. Administration continues to explore "cutting edge" trenchless technologies with the primary goal of passing along cost savings to the citizens of London.

### **Service Improvements:**

### ES2464-14 Separation and CSO Program - \$5.6 M

This is an annual program to investigate, prioritize and implement solutions to reduce combined sewer overflows (CSO's) to the environment. Remedial efforts to contain overflows, such as online or offline storage facilities, and/or convey additional wet weather combined sewer flows, such as new or upsized sewers, are complex and can be quite costly. The current strategy involves multiple initiatives with an emphasis on source control through inflow and infiltration reduction, including weeping tile disconnection, sewer separation (i.e. catchbasin removal from sanitary), smoke testing, and sewer

## **Wastewater and Treatment 2014 Budget and Forecast**

lining. This program will allow us to better understand the dynamic operation of our current sewer system, strengthen our strategic plan to systematically address deficiencies, be prepared for infill growth opportunities and meet existing and future regulatory requirements.

### **Growth:**

#### ES2685 Greenway Expansion and Upgrade - \$19.5 M

The July 2010 Greenway Expansion Environmental Study Report (ESR) recommended expanding the Greenway plant through two phases of 9 MLD each. This additional capacity will service expected growth from the southwest area, downtown core intensification, and future industrial land development. The first phase focused on restoring the capacity of the three section finals to current Ministry of Environment guidelines plus an additional 9 MLD to be realized through optimization, upgrades of the section 3 bioreactor and further final clarifier expansion. The second phase involved repurposing the existing three section clarifiers as aeration tanks and the addition of more three section final clarifier capacity to complete the full 18 MLD expansion. New headworks were also recommended as part of the first phase to alleviate hydraulic bottle necks. The total estimated cost for the first phase was \$26.68 million and the final \$5.9 million of this total cost was approved in the 2013 budget.

Following the release of the ESR, an internal roadmap for the expansion was developed that focused on optimizing the existing plant infrastructure including plant sections one and two. This process identified a number of opportunities to achieve additional capacity in a cost-effective manner and formed the technical basis for the RFP design submissions. The revised design for the Greenway expansion prepared by the selected design team offers the following additions/improvements beyond those identified in the first phase of the ESR: additional 9 MLD capacity including all new final clarifiers for section 3; refurbishment of one section aeration; potential to decommission one section in the future allowing further expansions, tertiary treatment or effluent pumping in its footprint; optimization of all plant sections for both dry and wet weather flows; and flood proofing coordination with proposed works.

## **Wastewater and Treatment 2014 Budget and Forecast**

The current cost estimate is approximately \$46.1 million and the additional \$19.46 million required to complete the expansion has been included in the 2014 capital budget. The higher cost of the revised design is being driven by an increase in the cost of the headworks from \$3 million to \$11 million due to site challenges and a larger building footprint to accommodate wet weather flow management. The current cost estimate also includes \$2 million for 1 section refurbishment not included in the original budget. The total \$46.1 million cost still compares favourably with the inflated cost estimate of \$95 million for construction of the Southside plant and associated conveyance. Furthermore, building the total 18 MLD at this time also allows diversion of flows from the Vauxhall and Adelaide plants to Greenway delaying anticipated expansions at those facilities.

**ESSWM-HP5 SWM Facility – Hyde Park No. 5 - \$5.5 M**

**ESSWM-SB SWM Facility – Wickerson S-B - \$2.7 M**

**ESSMW-MM4 SWM Facility – Murray Marr No. 4 - \$2.1 M**

Construction of the above noted stormwater management facilities and associated works is planned for 2014 to service the proposed land developments within the Hyde Park and Wickerson Road Development Areas and Murray Marr Drainage Area, respectively.

### **Cost Saving Initiatives**

The Wastewater and Treatment Service Area undertakes continuous improvement in all areas with a focus on efficiency and effectiveness, that is, "Doing the Right Things, Right".

### **Construction Technologies**

There have been significant changes in the philosophy of the life cycle replacement of underground infrastructure. Construction methodology for the maintenance of existing infrastructures has evolved utilizing methods which are less costly, intrusive and disruptive. Extending the life cycle of existing sewers through lining defers full replacement for many

## **Wastewater and Treatment 2014 Budget and Forecast**

years and provides good value for the investment. These new technologies will be incorporated into projects such as Specialized Sewer Repairs (ES2693-14) and Sewer Construction, Extensions and Repairs (ES2523-14).

For private drain connection replacement, trenchless construction is expected to supplant the traditional open cut excavation method. While these new methods require additional equipment, they generate significant savings in material and labour costs. Additionally, they are less socially disruptive and again provide good value for the investment.

### Computer Maintenance Management System (CMMS)

Sewer Operations is working towards electronic maintenance and asset management (project ES5419), in conjunction with the Asset Management Division. The computerized work order system will better schedule the work of Operations staff to achieve greater efficiencies, track expenditures against assets and develop readily retrievable electronic records for each sewer asset. Planning began in 2011 and it is expected that implementation will begin in 2013; the system will be operational in 2014.

### Wastewater Treatment Optimization Plan

The Wastewater Treatment Operations area is currently in the process of developing an approach to meeting more stringent effluent criteria while reducing long-term capital costs for wastewater treatment plant expansions. The goal of this project is to find unused capacity at existing facilities and coordinate future expansions with life cycle replacements over the next twenty years, recognizing that technological advancements will continue to occur. The future challenges of tighter effluent criteria, combined sewer overflow treatment and mitigation and the effects of climate change will also be addressed through this project. Operational savings are possible through reduced energy consumption coupled with increased efficiency of operations. Capital costs are likely to be delayed or eliminated due to enhanced growth and life cycle project designs. The plan will embrace new technologies, and will involve technical staff and outside expertise in a phased process that recognizes successful pilot projects that are currently in progress and envisions the benefits of automation and innovation into the future. The project will also incorporate the work of the International Water Centre of Excellence at Greenway Wastewater Treatment Plant once it is operational, enhancing London's leadership position in

## **Wastewater and Treatment 2014 Budget and Forecast**

embracing new wastewater treatment technologies. It is expected that the Optimization Plan will be completed in late 2013, with phased implementation commencing thereafter.

### **Sewage Residual Management Review**

Due to new technologies and an interest in energy recovery, the London method of managing the end result of wastewater treatment was reviewed in 2013. The goal was to ensure that the existing processes are the most cost effective before making energy recovery decisions. Although this is a topic also included in the Optimization program noted above, there was a desire to accelerate this component because of emerging opportunities. London's existing residuals management method involves trucking biosolids to a central location followed by dewatering, incineration and ash disposal. Other approaches to managing residuals that involve different processes and infrastructure were considered. These also have energy recovery and beneficial end use possibilities. London's method was benchmarked against other approaches to provide direction to the Optimization Plan and energy recovery practices. This review was completed in September 2013. London's biosolids management method was found to be 2-4 times more cost-effective than other alternatives. However, environmental and social benefits could be enhanced through significant electricity generation opportunities from waste incineration heat. Administration was directed to prepare an implementation strategy, which may have future budget implications.

### **Related Legislation and Other Challenges**

In August 2007, the Ontario Ministry of the Environment (MOE) filed the Regulation and Guidelines for the Safe Drinking Water Act, 2002 Financial Plans requirement (O. Regulation 453/07). This adds to the requirements of PSAB 3150 (Public Sector Accounting Board) for the tracking of tangible capital assets and requires utilities to not only track assets but to also ensure the adequate funding of replacements. The Water Opportunities Act 2010 includes requirements to have sewer utilities follow suit and move to truly sustainable systems and to ensure that the infrastructure renewal gap is ultimately eliminated.

## **Wastewater and Treatment 2014 Budget and Forecast**

The Wastewater and Treatment Area is preparing for a new wave of Canada-wide effluent criteria. Effluent discharge objectives will be determined within the next five years for receiving waterways. Monitoring will be required for an array of parameters including acute and chronic toxicity. Although London is fortunate to have plants that already surpass virtually all of the new standards, a position many other municipalities are now under pressure to meet, staff continue to proactively review all pending changes in regulations to ensure compliance can be met in the future.

### **Health of the Thames River**

Federal criteria also have an impact on the way the City manages its combined sewers. By Federal estimates the national cost for sewer separation is \$15 billion (and this is thought to be on the low side). London's cost to separate sewers has yet to be determined and in large part will be additional costs to the 20 year plan. Until the exact parameters and limits are defined, additional work and related costs needed to meet the new reality cannot be determined. As stricter regulations are imposed, the existing system grows larger and older and as maintenance and operating costs escalate, extending the life cycle and improving the performance of the existing infrastructure will become essential to addressing the infrastructure gap.

The City is developing a Pollution Prevention and Control Plan (PPCP) to provide a "road map" for the phased implementation of infrastructure projects that will mitigate the impacts of combined sewer overflows (CSO's) and bypasses to the Thames River. The PPCP will align with the City's commitment to environmental stewardship and the protection of water resources and will follow the Municipal Class Environmental Assessment Master Plan process with public, agency, stakeholder and First Nation consultation. A Steering Committee with membership from the City, the Consulting team, the Ontario Ministry of the Environment and the Upper Thames River Conservation Authority will help guide the process, ensuring input from all regulatory partners. Phase 1 will establish a priority ranking of CSO and bypass discharge points through a review of Thames River historical benthic studies, water quality, CSO and bypass discharge points, and flow monitoring data. It is anticipated that Phase 1 will be completed by the end of 2013.

## **Wastewater and Treatment 2014 Budget and Forecast**

Phase 2 will include Thames River characterization, hydrologic and hydraulic modeling, and development of a long and short list of CSO and bypass control alternatives. Phase 3 will evaluate alternatives and select preferred solutions resulting in a 20 year implementation plan and completion of the Master Plan.

City staff's 2014 plans include the completion of a communications plan involving all 3 levels of government and the establishment of a municipal engagement subcommittee chaired by City staff. The PPCP will be completed in its entirety in 2-3 years and will be submitted to Council for approval.

This budget supports these requirements and challenges while managing the utility's revenue and the City's debt strategy. The proposed direction continues to position London to reach sustainability. Through a sound proactive business approach, rate increases can be managed, imposing the least impact on affected rate payers. Acquiring the appropriate level of financing to meet current legislative requirements and support routine operations, maintenance and replacement programs is imperative to public health, safety and environmental protection.

### **Conclusion**

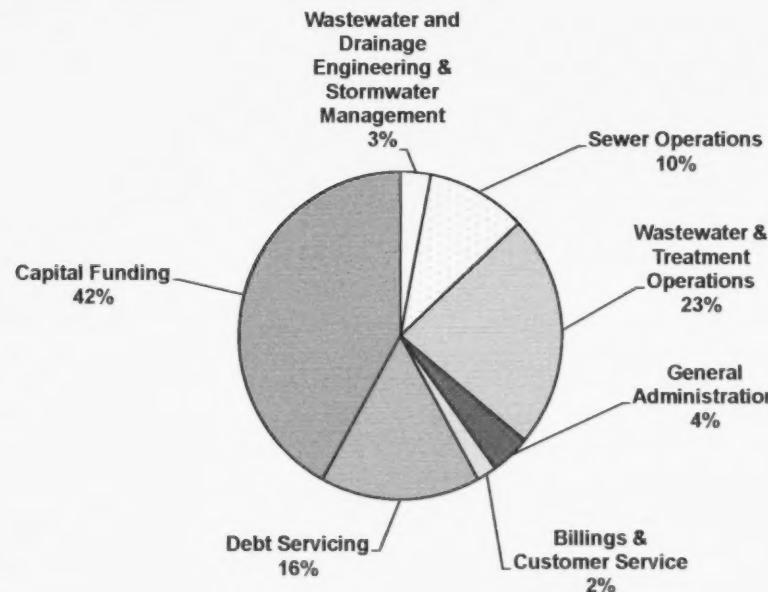
The City of London's sanitary and storm sewer system has a replacement value of approximately \$4.0 billion. Many components of the system are at or beyond their anticipated service life. The major challenge is the work that must be undertaken to properly sustain, improve and grow the system through operating and capital funding.

A well-managed sewerage system supports the health, well being and prosperity of our urban community, and is an integral part of the City's strategic priorities regarding A Green & Growing City, A Sustainable Infrastructure and A Strong Economy. By becoming financially sustainable we provide value for future generations.

This budget, with its 7% rate increase, moves the City toward compliance with the anticipated requirements of the Water Opportunities Act 2010. For the average homeowner, this will result in a yearly increase of \$28 to \$464 per year or \$1.27 per day (based on consumption of 181.2 m<sup>3</sup>).

## Wastewater and Treatment

### Your Wastewater and Treatment Dollar is Spent in Several Areas



	Budgeted Residential Cost at 2013 Rates <sup>(1)</sup>	Forecasted Residential Cost at 2013 Rates <sup>(2)</sup>	Approved Increase (7%) <sup>(3)</sup>	Forecasted Residential Cost at 2014 Rates <sup>(4)</sup>
Sanitary	\$333	\$279	\$20	\$299
Storm	\$161	\$157	\$8	\$165
	\$494	\$436	\$28	\$464

(1) The budgeted residential cost in 2013 was based on an average residential consumption of 188.1 m<sup>3</sup>.

(2) The forecasted residential cost in 2013 has been restated using the new rate structure effective March 1, 2013 and based on a revised consumption estimate of 181.2 m<sup>3</sup>. Reflects full year of new rate structure for simplicity.

(3) The forecasted average residential increase in Storm charges for 2014 is less than 7% due to the phase-in of the new Storm Drainage Charge.

(4) The forecasted residential cost in 2014 is based on an average residential consumption of 181.2 m<sup>3</sup>.

**Wastewater and Treatment  
2014 Budget Highlights  
(\$000's)**

	<b>(\$000's)</b>	<b>%</b>
2014 Approved Budget	\$84,529	
2013 Approved Budget (excluding impact of new rate structure)	\$79,058	
<b>Increase Over 2013 Budget</b>	<b>\$5,471</b>	<b>6.9%</b>
Impact of Lower than Anticipated Consumption offset by Impact of New Rate Structure, etc.		0.1%
<b>Total Rate Increase</b>		<b>7.0%</b>

# BUSINESS PLAN: Wastewater Removal & Stormwater Management

How does this service contribute to the results identified in the City of London Strategic Plan?

<input checked="" type="checkbox"/> A strong economy	<input checked="" type="checkbox"/> A vibrant and diverse community	<input checked="" type="checkbox"/> A green and growing City	<input checked="" type="checkbox"/> A sustainable infrastructure	<input checked="" type="checkbox"/> A caring community
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Comply with all regulatory requirements to operate, sustain, expand, and improve the wastewater and stormwater infrastructure for efficiently delivering high quality and reliable environmental and drainage services to London's customers for all residential/institutional/commercial and industrial needs, while also providing education and encouraging watershed-based management.

Name the main activities done to provide this service:

Name The Activities Done To Provide This Service	How Much Did We Do? (optional)	Is The City Mandated To Provide This Service?	Can The Level Of Service Be Changed?
1. Operation, Maintenance and Repair of the Wastewater Conveyance and Treatment Systems and Stormwater Management System	- 65-90B L of wastewater treated annually - 700-1,000 km of sewers flushed annually	Yes	Yes, with limitations
2. Renewal of Existing Infrastructure	- 20-25 km of sewers rehabilitated annually - 8-25 km of sewers installed annually (new and replacement) - 1-2 stormwater management facility rehabilitations annually - Approx. 1 km of watercourses rehabilitated annually - Approx. 3.5 ha of wetland reclamation completed annually	Yes	Yes, with limitations
3. Extension of Services for Growth	- Approx. 30km of sanitary & storm sewers assumed annually - Approx. 3.5 stormwater management facilities constructed annually and approx. 2 stormwater management facilities assumed annually	Yes	Yes, with limitations

## What is the current state of this service?

- Current objectives of the Wastewater utility include:
  - Working towards achieving a financially sustainable<sup>1</sup> utility and addressing lifecycle renewal, growth and economic development objectives of the City while ensuring regulatory compliance
  - Maintaining / improving the existing level of service provided to the citizens and businesses of London
  - Maintaining best-in-class standings with the National Benchmarking Initiative
  - Minimizing the number of sewer-related blockages
  - Reducing the number of basement flooding occurrences
  - Improving the health of the Thames River
  - Providing support for the City's Industrial Land Development Strategy
- These objectives are being driven by a number of factors, including:
  - Customer expectations of the services that should be provided
  - Council-approved level of service requirements
  - Council-endorsed strategic initiatives
  - City of London Strategic Plan
  - Climate Change Adaptation Strategy
- A number of challenges are facing the Wastewater service area in the achievement of these objectives:
  - Declining revenue base, aging infrastructure (much of which is reaching the end of its useful life at the same time), increasing cost drivers over which the utility has no direct control (power, labour, etc.), an aging workforce, and ever-increasing regulatory requirements
  - Extreme weather events associated with climate change are placing an additional burden on stormwater and wastewater collection systems and also pose a threat to many wastewater facilities located in close proximity to rivers and on floodplains. Changing climate conditions are also making the updating of subwatershed studies more challenging.
  - Increasing customer expectations (e.g. many more homes are now utilizing their basements as living quarters and therefore there is a customer expectation that no damages to this space should occur via sewage backups even under changing climate conditions)
  - The large and growing geographic size of London makes service delivery challenging (3,800 square kilometers of land drainage flows through London – improving water quality in the Thames River therefore needs to have a watershed wide approach)
  - Current economic climate demands that fully serviced industrial lands are available as opportunities arise

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<sup>1</sup> Financial Sustainability is defined as the movement toward annual rate increases that can be maintained at or near the annual rate of inflation based on a combination of CPI and the Construction Price Index with appropriate use of debt financing, adequate reserve funds and the appropriate investment in capital.

- Some of the challenges noted above have been managed with positive results in 2013 through the following achievements:
  - Implemented a new funding model which covers a portion of the system renewal cost
  - Recently completed the first 2 rehabilitations of stormwater management ponds in the City
  - Constructed multiple regional stormwater management facilities
  - Completed the rehabilitation of the Talbot Street trunk sewer
  - Completed the rehabilitation of second last phase of the Gordon trunk sewer
  - Completed the sludge dewatering upgrades at the Greenway PCP, ensuring biosolids disposal capacity for 20-30 years
  - Completed the new ash dewatering system at Greenway PCP
  - Began construction of the Southern Ontario Water Consortium-London Wastewater Node at Greenway PCP
  - Initiated implementation of a Computerized Maintenance Management System, to bring the utility maintenance and work flow management up to industry standards. This will result in staff resource efficiencies, enhanced documentation, and cost tracking of maintenance activities, while also ensuring compliance with regulatory requirements
  - Implementation of the Sherwood Forest Weeping Tile Disconnect Pilot Project to alleviate basement flooding issues in that area
  - Endorsement of the Thames River Clear Water Revival Charter and project Terms of Reference by all partners (in London at the Mayor and the City Engineer level respectively via report to Council)
  - Completed Phase 1 of Council's Climate Change Adaptation Strategy and developed City's stormwater management strategy to deal with extreme storm events
  - Supported the preparation and sale of serviced industrial lots

### What is the future direction of this service?

- Core business objectives will remain consistent; however, specific attention will be given to opportunities for synergistic activities in four areas: regulatory compliance, growth, efficiency and best management practices, with sustainability being a common theme in all areas.
- The drivers for these four activity areas include: protecting public health and private property; meeting all regulatory requirements; supporting Council's objectives of economic development and growth; realizing efficiencies to reduce long term costs; investing in succession planning; harnessing innovative technologies; and maintaining a high level of service to consistently meet customers' expectations.
- Continuing focus on delivering financial sustainability in the near term and infrastructure sustainability as the 20-Year Capital Plan is implemented.
- Continuing efforts to effectively meet regulatory requirements under the Environmental Protection Act.
- Place greater emphasis on the Sewer Operations core business (e.g. more maintenance driven work, such as manhole replacements, localized excavation repairs, etc.) while continuing to investigate and implement operational efficiencies (such as opportunities identified from the implementation of the Computerized Maintenance Management System).

## What is the future direction of this service? (cont'd)

- Optimize Wastewater Treatment in an effort to find latent and inexpensive capacity with the intention of delaying more expensive plant expansions through the Wastewater Treatment optimization strategy.
- Construct all new stormwater management facilities, monitor surface flooding and erosion issues, and implement new standards to ensure continued conveyance of overland flows. Further effort will be invested in developing water resources criteria to effectively deal with extreme storm events.
- Continue to pursue Thames River water quality improvements at the watershed level.
- In partnership with the UTRCA, manage the risk of flooding through the implementation of the long term dyke repair plan.

## What do you plan to do?

2014

- Analyze vacant land parcels for applicability of a charge for drainage services
- Set a strategy for achieving an appropriate minimum reserve fund balance for the utility, consistent with corporate wide financial objectives
- Complete the development of a Computerized Maintenance Management System, to bring the utility's maintenance and work flow management up to industry standards. This will result in staff resource efficiencies, enhanced documentation, and cost tracking of maintenance activities, while also aiding in compliance with regulatory requirements
- Update stormwater management facility rehabilitation costs based on field data collected from 2012 and 2013
- Continue the ongoing stormwater management facility rehabilitation program by rehabilitating an additional 3 facilities
- Measure and assess the effectiveness of the Sherwood Forest Disconnection Project while continuing to administer and promote the Sump Pump Grant Program to further alleviate basement flooding
- Provide service area support for the Corporation's Industrial Land Development Strategy and Development Charges update
- Begin construction on the Greenway WWTP expansion / CSO treatment project
- Begin site specific plant optimization reviews based on previous work
- Complete construction of the Southern Ontario Water Consortium-London Wastewater Node at Greenway WWTP and support its operational plan

- Efforts will continue to improve the health of the Thames River and support the Council-endorsed strategic initiatives underway, including:
  - investigation of opportunities for long-term funding from other sources,
  - strengthening collaboration with Western University and other research centres, and
  - establishing a Municipal Engagement Subcommittee chaired by City of London staff.
- Continue to advance the Pollution Prevention and Control Plan (PPCP) aimed at reducing the number of overflows in both the collection system and at the wastewater treatment plants while helping to ensure wet weather flows are treated to Ministry of Environment standards
- Complete the technical background work and stormwater related policies for the 2014 Development Charges Study
- Continue to construct stormwater management facilities in accordance with the Growth Management Implementation Strategy (GMIS)
- Complete stormwater servicing updates
- Reclaim 21 hectares of wetland in the Dingman Creek Subwatershed

#### 2015 – 2018

- Continue the stormwater management facility rehabilitation program, by rehabilitating an additional 3 facilities in 2015 and 1 facility in 2016 and 2017
- Retain an external consultant in 2015 to refresh the 2010 stormwater management facility report
- Optimize the Computerized Maintenance Management System
- Initiate long-term strategic planning based on preliminary results of the CMMS implementation
- Implement various Development Charges-funded growth projects to support the Industrial Land Development Strategy
- Complete the Burbrook Trunk Storm Sewer (ES3054) project that will allow sewer separation works to advance, which will reduce the likelihood of sewer backups
- Complete the first phase of a Thames River watershed-wide Water Management Study
- Provide cost effective and timely servicing strategies for new industrial lands
- Begin optimization projects at wastewater treatment facilities based on the results of the Wastewater Treatment optimization strategy completed in late 2013/early 2014
- Complete the plan and commence work on measures identified as part of the Pollution Prevention and Control Plan
- Assume various stormwater management facilities constructed by developers

<i>Description of measure</i>	<i>Key Performance Indicators</i>						
	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>
<b>How Much?</b>							
1. Volume of wastewater treated (billion litres)	67.9	74.0	85.8	86.7	87.7	88.6	89.4
2. Percentage of sanitary sewer system flushed (1)	94%	86%	86%	81%	76%	67%	67%
3. Percentage of sewer system replaced/rehabilitated/relined	1.3%	1.3%	1.5%	1.3%	1.4%	1.4%	1.4%
4. Percentage of stormwater management facilities rehabilitated (2)	4.2%	8.3%	12.5%	12.5%	4.2%	4.2%	0%
<b>How Well?</b>							
5. Average annual cost for residential customer (3)	\$455	\$436	\$464	\$493	\$508	\$523	\$539
6. Percentage of Bio-chemical Oxygen Demand removed	99%	99%	99%	99%	99%	99%	99%
7. Percentage of stormwater management facilities constructed as required by subdivisions approved for development by Council	100%	100%	100%	100%	100%	100%	100%
<b>Is Anyone Better Off?</b>							
8. Number of MOE effluent violations	1	1	1	1	1	1	1
9. Percentage of flooding complaints addressed	100%	100%	100%	100%	100%	100%	100%
10. Number of blocked sewers per 100km length	0.5	0.5	0.5	0.5	0.5	0.5	0.5

**NOTE: 2012 values represent actual amounts; 2013-2018 values represent forecasts**

- (1) Current level of service requires the sanitary sewer collection system to be completely flushed once every 2 years.
- (2) Based on 24 existing stormwater management facilities.
- (3) Based on 2013 projected consumption of 181.2 m<sup>3</sup> and does not incorporate future projected consumption declines. Actual cost may be lower as a result.

**Wastewater and Treatment**  
**2014 Object of Expenditure and Source of Revenue Summary**  
**(\$000's)**

Object of Expenditure and Source of Revenue	2012 Actuals	2013 Revised Budget	2014 Approved Budget	Change from 2013	Prior Year Change
<b>Revenues</b>					
Sanitary Sewer System Charge	51,899	55,643		(55,643)	-100.0%
Wastewater Usage Charge <sup>(1)</sup>			39,237	39,237	100.0%
Wastewater Infrastructure Charge <sup>(1)</sup>			17,813	17,813	100.0%
Storm Drainage System Charge	17,251	18,811	22,220	3,409	18.1%
Other Revenues	5,920	4,604	5,259	655	14.2%
<b>Total Revenues</b>	<b>75,070</b>	<b>79,058</b>	<b>84,529</b>	<b>5,471</b>	<b>6.9%</b>
<b>Operating Related</b>					
Personnel Costs	13,925	14,593	14,775	182	1.2%
Administrative, Other & Recovered Expenses	1,685	1,974	2,081	107	5.4%
Billings & Customer Service	1,659	2,662	2,081	(581)	-21.8%
Purchased Services	3,180	3,112	3,195	83	2.7%
Materials & Supplies	8,515	10,382	10,392	10	0.1%
Equipment & Rentals	3,036	3,130	3,103	(27)	-0.9%
<b>Total Operating Related</b>	<b>32,000</b>	<b>35,853</b>	<b>35,627</b>	<b>(226)</b>	<b>(0.6%)</b>
<b>Financial Expenses</b>					
Debt Servicing Costs	12,210	13,271	13,687	416	3.1%
Contribution to Reserve Funds <sup>(2)</sup>	21,770	20,134	23,615	3,481	17.3%
Capital Levy	9,090	9,800	11,600	1,800	18.4%
<b>Total Financial Expenses</b>	<b>43,070</b>	<b>43,205</b>	<b>48,902</b>	<b>5,697</b>	<b>13.2%</b>
<b>Total Expenditures</b>	<b>75,070</b>	<b>79,058</b>	<b>84,529</b>	<b>5,471</b>	<b>6.9%</b>

(1) Reflects revised categorization of revenue accounts after the implementation of the new rate structure effective March 1, 2013.

(2) Includes contributions to reserves for Economic Development, Local Improvements and Self Insurance.

**Wastewater and Treatment**  
**2014 Operating Program Budget Summary**  
**(\$000's)**

Program	2012 Actuals	2013 Revised Budget	2014 Approved Budget	Change from 2013	Prior Year Change
<b>Total Revenues</b>	<b>75,070</b>	<b>79,058</b>	<b>84,529</b>	<b>5,471</b>	<b>6.9%</b>
<b>Engineering &amp; Operations</b>					
Wastewater & Drainage Engineering & Stormwater Management	2,384	2,577	2,615	38	1.5%
Sewer Operations	8,198	8,405	8,436	31	0.4%
Wastewater & Treatment Operations	17,211	19,446	19,394	(52)	-0.3%
General Administration	2,548	2,763	3,101	338	12.2%
Billings & Customer Service	1,659	2,662	2,081	(581)	-21.8%
<b>Total Engineering &amp; Operations</b>	<b>32,000</b>	<b>35,853</b>	<b>35,627</b>	<b>(226)</b>	<b>(0.6%)</b>
<b>Total Capital Contribution &amp; Financial Expenses</b>	<b>43,070</b>	<b>43,205</b>	<b>48,902</b>	<b>5,697</b>	<b>13.2%</b>
<b>Total Expenditures</b>	<b>75,070</b>	<b>79,058</b>	<b>84,529</b>	<b>5,471</b>	<b>6.9%</b>

**Wastewater and Treatment**  
**Overview of Program Changes - Revenue**  
**(\$000's)**

<b>Explanation of Changes in Revenue</b>	<b>Change (\$000's)</b>
Revenue impact of the implementation of the new rate structure effective March 1, 2013, offset by reduced water consumption forecasts. Incremental revenues are driven primarily by the phase-in of the revised Storm Drainage charges approved under the new rate structure. Water consumption forecast has been reduced from 43.2M m <sup>3</sup> in 2013 to 41.0M m <sup>3</sup> in 2014 as a result of the continuing trend of water conservation.	(735)
Additional revenue as a result of growth in the number of customer accounts	364
Change in other revenues, primarily due to higher than previously forecasted high strength waste revenues	655
Approved 7% rate increase for 2014	5,187
<b>Total Change in Revenues</b>	<b>5,471</b>

**Wastewater and Treatment**  
**Overview of Program Changes - Expenditures**  
**(\$000's)**

<b>Explanation of Changes in Expenditures</b>	<b>Change (\$000's)</b>
Decrease in billing and customer service costs, driven by a reduction in the amount budgeted for billing services provided by London Hydro as a result of the Service Agreement negotiated in 2013.	(581)
Increase in personnel costs attributable to wage, salary & benefits adjustments in accordance with existing employment agreements.	182
Increases in purchased services, materials & supplies, and administrative expenses, offset by a small reduction in equipment & rentals. The administrative expenses increase includes \$157 thousand related to the move to full cost accounting through a transfer of an additional share of other administration costs from Water to Wastewater and Treatment.	173
<b>Operating Related</b>	<b>(226)</b>
Increase in contributions to reserve funds to reflect changes to the 20 year plan and objective of maintaining sufficient reserve fund balances to support an estimated asset base of \$4 billion.	3,481
Increase in capital levy required to fund the life cycle renewal project budget. This increase is necessary in order to progress towards achieving the target of 75% of future life cycle projects funded on a pay-as-you-go basis, consistent with the Financial Plan.	1,800
Increase in cost of debt servicing related to previously approved capital projects.	416
<b>Capital Related</b>	<b>5,697</b>
<b>Total Change in Expenditures</b>	<b>5,471</b>

## **Wastewater and Treatment Four Year Operating Forecast**

### **Revenue**

The projected rate increases of 7% for 2014 and 2015 and 3% thereafter have been incorporated into the 20 Year Sewer System Plan. While the declining water consumption trend helps to postpone future works, it is placing significant pressure on the City's capacity to raise funds to operate, maintain and improve the existing system. The implementation of the new water rate structure in 2013 partially offsets declining consumption by shifting a greater portion of total revenues to fixed charges. However, the City remains heavily dependent on water consumption to generate sufficient revenues. The approved rate increases are offset by an anticipated net consumption reduction of 1% (assuming a 1% growth factor and an average consumption reduction of 2%) until 2021 and an anticipated net consumption reduction of 0% (assuming a 1% growth factor and an average consumption reduction of 1%) thereafter. It should be noted that projections are based on best available information at this time. Changes in the economic climate, legislative requirements, or water consumption trends may result in modifications to the 20 Year Sewer System Plan to ensure sustainability is achieved.

### **WADE, Operations, and Stormwater Management**

All operating budget categories are forecasted to increase by an anticipated rate of inflation of 3% for 2015 through 2018.

### **Capital Financing**

The forecast for 2014 projects the capital levy to be at 60% of the annual life cycle renewal cost, and is projected to gradually increase to 75% by 2018. Achieving the 75% capital levy is consistent with the Strategic Financial Plan to ensure that life cycle renewal projects are not funded through debt. Contributions to reserve funds will change depending on the timing of capital projects identified in the 20 Year Sewer System Plan.

**Wastewater and Treatment**  
**Four Year Operating Forecast**  
**(\$000's)**

Program	2014 Approved Budget	2015 Budget Forecast	Incr. / (Decr.) Over 2014		2016 Budget Forecast	Incr. / (Decr.) Over 2015		2017 Budget Forecast	Incr. / (Decr.) Over 2016		2018 Budget Forecast	Incr. / (Decr.) Over 2017	
			\$	%		\$	%		\$	%		\$	%
Sewer Rate Forecast	7.0%	7.0%			3.0%			3.0%			3.0%		
<b>Revenues</b>													
Wastewater Usage Charge	39,237	41,656	2,419	6.2%	42,572	916	2.2%	43,508	936	2.2%	44,464	956	2.2%
Wastewater Infrastructure Charge	17,813	19,244	1,431	8.0%	20,013	769	4.0%	20,813	800	4.0%	21,645	832	4.0%
Storm Drainage System Charge	22,220	24,890	2,670	12.0%	25,893	1,003	4.0%	26,937	1,044	4.0%	28,022	1,085	4.0%
Other Revenues	5,259	5,627	368	7.0%	5,796	169	3.0%	5,970	174	3.0%	6,149	179	3.0%
<b>Total Revenues</b>	<b>84,529</b>	<b>91,417</b>	<b>6,888</b>	<b>8.1%</b>	<b>94,274</b>	<b>2,857</b>	<b>3.1%</b>	<b>97,228</b>	<b>2,954</b>	<b>3.1%</b>	<b>100,280</b>	<b>3,052</b>	<b>3.1%</b>
<b>Engineering &amp; Operations</b>													
Wastewater and Drainage Engineering & Stormwater Management	2,615	2,693	78	3.0%	2,774	81	3.0%	2,857	83	3.0%	2,943	86	3.0%
Sewer Operations	8,436	8,689	253	3.0%	8,950	261	3.0%	9,219	269	3.0%	9,496	277	3.0%
Wastewater & Treatment Operations	19,394	19,976	582	3.0%	20,575	599	3.0%	21,192	617	3.0%	21,828	636	3.0%
General Administration & Financial Expenses	3,101	3,194	93	3.0%	3,290	96	3.0%	3,389	99	3.0%	3,491	102	3.0%
Billings & Customer Service	2,081	2,143	62	3.0%	2,207	64	3.0%	2,273	66	3.0%	2,341	68	3.0%
<b>Total Engineering &amp; Operations</b>	<b>35,627</b>	<b>36,695</b>	<b>1,068</b>	<b>3.0%</b>	<b>37,796</b>	<b>1,101</b>	<b>3.0%</b>	<b>38,930</b>	<b>1,134</b>	<b>3.0%</b>	<b>40,099</b>	<b>1,169</b>	<b>3.0%</b>
<b>Capital Contribution &amp; Debt Servicing</b>													
Debt Servicing Costs	13,687	13,590	(97)	-0.7%	13,447	(143)	-1.1%	13,287	(160)	-1.2%	12,575	(712)	-5.4%
Contribution to Reserve Funds	23,615	27,712	4,097	17.3%	27,831	119	0.4%	28,011	180	0.6%	30,875	2,864	10.2%
Capital Levy	11,600	13,420	1,820	15.7%	15,200	1,780	13.3%	17,000	1,800	11.8%	16,731	(269)	-1.6%
<b>Total Capital Contribution &amp; Debt Servicing</b>	<b>48,902</b>	<b>54,722</b>	<b>5,820</b>	<b>11.9%</b>	<b>56,478</b>	<b>1,756</b>	<b>3.2%</b>	<b>58,298</b>	<b>1,820</b>	<b>3.2%</b>	<b>60,181</b>	<b>1,883</b>	<b>3.2%</b>
<b>Total Expenditures</b>	<b>84,529</b>	<b>91,417</b>	<b>6,888</b>	<b>8.1%</b>	<b>94,274</b>	<b>2,857</b>	<b>3.1%</b>	<b>97,228</b>	<b>2,954</b>	<b>3.1%</b>	<b>100,280</b>	<b>3,052</b>	<b>3.1%</b>

**Wastewater and Treatment  
Performance Measures and Staffing**

	2012	2013	2014	2015	2016	2017	2018
Performance Measures	Actual	Revised	Approved	Forecast			
<b>Activity Measures</b>							
Volume of wastewater treated (billion litres)	67.9	74.0	85.8	86.7	87.7	88.6	89.4
Percentage of sewer system replaced/rehabilitated/relined	1.3%	1.3%	1.5%	1.3%	1.4%	1.4%	1.4%
Number of PDC's replaced <sup>(1)</sup>	58	75	75	75	75	75	75
Percentage of sanitary sewer system flushed <sup>(2)</sup>	94%	86%	86%	81%	76%	67%	67%
Percentage of stormwater management facilities rehabilitated <sup>(3)</sup>	4.2%	8.3%	12.5%	12.5%	4.2%	4.2%	0.0%
<b>Efficiency Measures</b>							
Average annual costs for residential customers <sup>(4)</sup>	\$455	\$436	\$464	\$493	\$508	\$523	\$539
Residential consumption (m <sup>3</sup> per year)	184.5	181.2	172.3	169.3	167.5	165.6	163.4
% BOD (Bio-chemical oxygen demand) removed - treatment	99%	99%	99%	99%	99%	99%	99%
<b>Effectiveness / Quality / Satisfaction Measures</b>							
Percentage of flooding complaints addressed	100%	100%	100%	100%	100%	100%	100%
Compliance - # of MOE effluent violations	1	1	1	1	1	1	1
Number of blocked sewers per 100km length	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Percentage of stormwater management facilities constructed as required by subdivisions approved for development	100%	100%	100%	100%	100%	100%	100%
<b>Staffing</b>							
	Budget	Budget					
Full-time Equivalents #	182.5	173.9	172.9	172.9	172.9	172.9	172.9
Increase / (Decrease) over previous year			(1.0)	0.0	0.0	0.0	0.0
Full-time Employees # <sup>(5)</sup>	167	162	161	161	161	161	161
Increase / (Decrease) over previous year			(1.0)	0.0	0.0	0.0	0.0

**NOTES:**

(1) Sewer Operations only.

(2) Current level of service requires the sanitary sewer collection system to be completely flushed once every 2 years.

(3) Based on 24 existing stormwater management facilities.

(4) The average cost per household estimate for 2014 - 2018 is based on 2013 consumption of 182.1 m<sup>3</sup> and does not incorporate future projected consumption declines. Actual cost per household may be lower as a result.

(5) Reduction in full-time employees due to existing vacant position made redundant in 2013.

**Wastewater and Treatment**

**2014 Capital Budget**

**With Forecasts**

**Wastewater and Treatment  
Capital Program  
(\$000's)**

Service Grouping:	Wastewater and Treatment	2014 Approved Budget -	\$	65,658
Committee:	Civic Works Committee	2015-2018 Forecast -	\$	224,079

**Objective:** The Wastewater and Treatment capital program addresses life cycle renewal, growth and service improvement needs within the City's pollution control plants, pump stations, and sanitary and stormwater collection systems. The elements in this program are generally identified through the sewer inspection program, known deficiencies as addressed by the appropriate engineering studies and documents such as the Sanitary and Storm Sewerage Master Plans aligned with the principles of the 20 Year Sewer System Plan.

Page Number	Project Number	Project	Life Cycle Renewal	Growth	Service Improvement
59	ES2108	Thames River Clear Water Revival			30
40	ES2414-14	Sewer Replacement Program	10,522		
41	ES2428-14	Erosion Remediation in Open Watercourses Management and Reclamation	420		
46	ES2435	PDC'S Installed with Claimable Urban Works		50	
60	ES2442-14	Extension of Services			900
60	ES2452	Water Quality and Storm Flow Conveyance Monitoring Program			280
61	ES2464-14	Separation and CSO Program			5,590
46	ES2466	Hyde Park Pumping Station Upgrades		200	
61	ES2468	Problematic Sump Pump Discharge Program			200
41	ES2473	Gordon Trunk Sewer Rehabilitation	1,500		
47	ES2493	Hyde Park Trunk Sanitary Sewer		650	
42	ES2523-14	Sewer Construction, Extensions and Repairs	450		
42	ES2532-14	Stormwater Management Facility Remediation Program	850		
48	ES2685	Greenway Expansion and Upgrade			19,463
42	ES2693-14	Specialized Sewer Repairs	4,700		
62	ES3040-14	Minor Surface Flooding and Erosion			210
62	ES3054	Burbrook Trunk Storm Sewer Phase IV			1,550
63	ES3058	Burbrook Lateral Program			2,300

**Wastewater and Treatment  
Capital Program  
(\$000's)**

Service Grouping:		Wastewater and Treatment	2014 Approved Budget -	\$ 65,658
Committee:		Civic Works Committee	2015-2018 Forecast -	\$ 224,079
Page Number	Project Number	Project	Life Cycle Renewal	Growth Service Improvement
49	ESSWM-HP5	SWM Facility - Hyde Park No. 5		5,540
49	ESSWM-MM4	SWM Facility - Murray Marr No. 4		2,100
51	ESSWM-PDR	Pincombe Drain Remediation		1,700
53	ESSWM-SB	SWM Facility - Wickerson No. S-B		2,743
43	ES3106	Commissioners Road Sewer Replacement	100	
54	ES3201	Dingman On-line Stormwater Management Flood Control Facility #1		760
54	ES3202	Dingman On-line Stormwater Management Flood Control Facility #2		150
55	ES4410	Funding of Exemptions for Sanitary and Storm		225
64	ES4422	Permanent Flow Monitor Installation		400
44	ES4834-14	Municipal Drain Maintenance	50	
44	ES5084-14	Replacement Equipment Wastewater Treatment Plants	500	
65	ES5165-14	New Equipment Wastewater Treatment Plants		50
56	ES5247 & ES5248	Wonderland/Wharncliffe Road South Trunk Gravity Sewer		525
57	ES5260	Lambeth Southland Servicing Solution		850
45	ES5424	Roadway Improvements to Wastewater Treatment Plants	100	
<b>Total by Classification</b>			<b>\$19,192</b>	<b>\$34,956</b>
<b>Total 2014 Wastewater &amp; Treatment Capital</b>			<b>\$65,658</b>	

**Wastewater and Treatment  
Capital Expenditure Summary by Classification  
(\$000's)**

<b>Wastewater &amp; Treatment</b>	<b>Prior Years</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019 to 2023</b>	<b>Total</b>
Life Cycle Renewal	7,752	22,592	19,192	22,642	22,252	31,362	22,758	134,102	282,652
Growth	51,129	14,444	34,956	25,808	16,849	17,658	15,270	79,192	255,306
Service Improvement	18,895	14,289	11,510	10,050	15,065	8,750	15,615	80,355	174,529
<b>Total</b>	<b>77,776</b>	<b>51,325</b>	<b>65,658</b>	<b>58,500</b>	<b>54,166</b>	<b>57,770</b>	<b>53,643</b>	<b>293,649</b>	<b>712,487</b>

(1) Subject to Council approval of the "Greenway Expansion Report" tabled October 28, 2013, the Prior Years and 2013 Approved Budget has been revised as per the following:

	<u>Prior Years</u>	<u>2013</u>	<u>Total</u>
ES5233 Vauxhall WWTP Expansion	(500)	(2,500)	(3,000)
ES5143 Hauled Liquid Waste Receiving	(2,400)		(2,400)
ES5234 Adelaide WWTP CSO	(1,500)	(1,300)	(2,800)
ES5431 Adelaide WWTP Expansion PH 2	(1,100)	(800)	(1,900)
	<u>(5,500)</u>	<u>(4,600)</u>	<u>(10,100)</u>

(2) The 2013 Approved Capital Budget will be revised from \$54.4 million to \$51.3 million due to budget adjustments noted above plus other 2013 budget adjustments including: recognition of the FedDev contribution for the Southern Ontario Water Consortium (SOWC) - London Wastewater Facility (\$4.7 million); a budget increase from private drain connections and local improvements - homeowner's share (\$0.3 million); a budget increase to Old Victoria #2 Stormwater Management Facility of (\$1.4 million); a budget reduction for the deferral of River Bend Tributary 'C' and Murray Marr Stormwater Management Facility (-\$4.4 million); and a budget reduction to the Southdale Road Widening Sanitary relocation (-\$0.5 million).

<b>Wastewater &amp; Treatment</b>	<b>Prior Years</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019 to 2023</b>	<b>Total</b>
Tangible Capital Asset	74,196	50,520	65,403	57,375	53,511	56,995	52,618	289,674	700,292
Non-Tangible Capital Asset <sup>(3)</sup>	3,580	805	255	1,125	655	775	1,025	3,975	12,195
<b>Total</b>	<b>77,776</b>	<b>51,325</b>	<b>65,658</b>	<b>58,500</b>	<b>54,166</b>	<b>57,770</b>	<b>53,643</b>	<b>293,649</b>	<b>712,487</b>

(3) A separate Non-Tangible Capital Asset (Non-TCA) section has been added because Non-TCA projects could be classified as life cycle renewal, growth, or service improvement. Non-TCA are expenditures that will not result in the creation of a tangible asset (having physical substance). It should be noted that the Non-TCA summary only includes projects that are 100% Non-TCA.

**Wastewater and Treatment  
Capital Source of Financing Summary  
(\$000's)**

<b>Wastewater and Treatment</b>	<b>Prior Years</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019 to 2023</b>	<b>Totals</b>
<b>RATE SUPPORTED</b>									
Capital Levy		870	9,800	11,600	13,420	15,200	17,000	16,731	98,564
Sewage Works Reserve Fund		12,671	14,337	18,490	22,107	16,533	21,155	19,276	80,310
Industrial Oversizing Sewer Reserve Fund		2,941	214	468	610	3,835	25	2,618	4,109
Sewage Treatment Plant Capacity Reserve Fund		3,280	946	3,118				806	15,475
Economic Development Reserve Fund					400	2,128			2,528
Debenture		18,668	4,571						23,239
Debenture (Industrial Oversizing Reserve Fund)		6,030							6,030
<b>Total Rate Supported</b>		<b>44,460</b>	<b>29,868</b>	<b>33,678</b>	<b>36,537</b>	<b>37,696</b>	<b>38,180</b>	<b>39,431</b>	<b>195,458</b>
<b>NON-RATE SUPPORTED</b>									
Debenture - Non Rate Supported (City Services - Sewer Levees Reserve Fund)		12,253	5,042	9,000	4,560			20,000	50,855
Debenture - Non Rate Supported (City Services - Major SWM Levees Reserve Fund)		6,742	(4,298)	6,702	2,145	8,564	8,041	1,598	28,950
City Services Sewer Levees Reserve Fund (1)		6,704	4,519	5,692	5,975	490	2,346	5,987	11,118
City Services Major SWM Levees Reserve Fund (1)		4,069	5,404	4,603	3,319	1,052	3,037	463	22,149
Federal Gas Tax Grant		2,000	5,500	5,500	5,500	5,500	5,500	5,500	27,500
Other Contributions (Prov Grants, Cash Payments)		1,548	5,290	485	464	864	666	664	7,421
<b>Total Non-Rate Supported</b>		<b>33,316</b>	<b>21,457</b>	<b>31,982</b>	<b>21,983</b>	<b>16,470</b>	<b>18,580</b>	<b>14,212</b>	<b>95,191</b>
<b>Total Sources of Financing</b>		<b>77,776</b>	<b>51,325</b>	<b>65,658</b>	<b>58,500</b>	<b>54,166</b>	<b>57,770</b>	<b>53,643</b>	<b>293,649</b>
									<b>712,457</b>

(1) Subject to Council approval of the "Greenway Expansion Report" tabled October 28, 2013, the Prior Years and 2013 Source of Financing has been revised as per the following:

	<b>Prior</b>	<b>2013</b>	<b>Total</b>
Sewage Works Reserve Fund	(3,987)	(1,316)	(5,303)
Debenture	(118)		(118)
Development Charges	(1,395)	(2,064)	(3,479)
Debenture (City Services-Sewer Levees RF)		(1,200)	(1,200)
	(5,500)	(4,600)	(10,100)

(2) Growth splits for 2014 and beyond are consistent with the 2009 Development Charge Study.

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>	<b>Prior Years</b>							<b>Category: Life Cycle Renewal</b>	
		2013	2014	2015	2016	2017	2018	2019 to 2023	Total
* ES1825-14 Video Inspection		400		400	400	400	400	2,000	4,000
An annual program to accurately assess the condition and identify deficiencies within an existing sewer pipe for rehabilitation and replacement programs. Construction Administration provides this investigation service for various divisions.									
<b>ES2414-14 Sewer Replacement Program</b>		10,584	10,522	11,422	13,572	19,732	12,978	82,212	161,022
The design and construction of replacement sanitary sewers, storm sewers and private drain connections determined by the City Internal Utilities Coordination Committee (UCC) and the needs of other Engineering Divisions on a priority basis. Sewers are replaced based on age, material, condition and capacity. Sewers in need of remediation are either fully replaced or spot repaired in conjunction with other service and utility upgrades in selected areas. A video inspection program assists with review and ultimate selection of specific repairs.									
<b>2014 Financing:</b>									
Capital Levy		\$3,154							
Reserve Fund		4,618							
Federal Gas Tax Grant		2,750							
<b>Total Financing</b>		<b>\$10,522</b>							

Note: \* represents projects that are classified as non-tangible capital assets. These expenditures will not result in the creation of a tangible asset (having physical substance).

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>		<b>Category: Life Cycle Renewal</b>							
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
ES2428-14 Erosion Remediation in Open Watercourses Management and Reclamation		420	420	440	320	320	320	1,600	3,840
To provide remediation of significant erosion and hydraulic deficiencies in existing open watercourses. City's subwatershed studies have identified locations that require remediation.									
<b>2014 Financing: Capital Levy</b>									
ES2473 Gordon Trunk Sewer Rehabilitation		4,000	1,038	1,500					6,538
This project is the continuation of several capital projects along the existing Gordon Trunk sewer where trenchless technology is fully utilized to rehabilitate this aging pipe rated in poor and deteriorating condition.									
<b>2014 Financing: Reserve Fund</b>									
ES2476 Elliot-Laidlaw Remediation Works		200		1,700					1,900
To undertake remediation works to minimize flooding and erosion, improve conveyance and eliminate existing deficiencies at a tributary of the Dingman Creek by constructing the required stormwater management measures to meet the City and Provincial requirements.									
ES2478 Existing Ditches and Open Watercourses								3,050	3,050
To undertake remediation works required to maintain adequate conveyance capacity and minimize erosion within open water courses and their tributaries.									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

**Service Grouping: Wastewater and Treatment**      **Category: Life Cycle Renewal**

	Prior Years							2019 to 2023		Total
		2013	2014	2015	2016	2017	2018			
<b>ES2523-14 Sewer Construction, Extensions and Repairs</b>		1,100	450	800	800	800	1,100	4,600	9,650	
An annual program to alleviate existing and potential flooding conditions through extensions/completion of sewer sections and repairs. Work is completed in conjunction with the City's local annual road construction program. This project also includes the construction of pathways to sewers that are currently inaccessible.										
<b>2014 Financing: Capital Levy</b>										
<b>ES2532-14 Stormwater Management Facility Remediation Program</b>		200	850	1,000	350	350	100	750	3,600	
An annual program that provides ongoing maintenance to assumed stormwater management facilities on a proactive and reactive basis.										
<b>2014 Financing: Capital Levy</b>										
<b>ES2693-14 Specialized Sewer Repairs</b>		4,700	4,700	3,700	3,700	4,400	4,700	13,800	39,700	
An annual program to extend the life of existing sewers through trenchless technologies primarily focused on internal lining projects plus internal spot repairs and the construction of accesses to previously inaccessible trunk sewers.										
<b>2014 Financing: Capital Levy</b>										
<b>* ES3067 Trunk Sewer Condition Assessment</b>		1,360	150	150	150	150	450	2,260		
Investigation of trunk sanitary and combined sewer systems, relating to structural condition and hydraulic capacities. Bi-annual program required to identify areas where more frequent maintenance may be needed to maintain capacities.										

**Note:** \* represents projects that are classified as non-tangible capital assets. These expenditures will not result in the creation of a tangible asset (having physical substance).

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>		<b>Category: Life Cycle Renewal</b>							
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES3074 Trunk Sewer Upgrades</b>					300	500	500	2,500	3,800
Improvements to trunk sanitary, storm and combined sewers to accommodate redevelopment and growth while reducing or eliminating overflows and rehabilitating deteriorating sewers.									
<b>ES3094 Greenway Section 1 Aeration Refurbishing</b>				500		2,500			3,000
To refurbish the east and west aeration tanks in Section 1 at Greenway Wastewater Treatment Plant. Project includes engineering, demolition and reconstruction of walkways, railings, interior and exterior tank walls and replacement of aeration process equipment.									
<b>ES3099 Vauxhall Section 1 Aeration Refurbishment</b>					450	2,550	3,000		
To refurbish the Section 1 aeration tank at the Vauxhall Wastewater Treatment Plant. Project includes engineering, demolition and reconstruction of walkways, railings, interior and exterior tank walls and potential aeration equipment upgrades.									
<b>ES3106 Commissioners Road Sewer Replacement</b>		100	800						900
To replace existing sanitary and storm sewers and private drain connections on Commissioners Road from Viscount Road to Wonderland Road that are in poor condition. Work to be done in conjunction with transportation project TS1470 - Road Widening.									
<b><u>2014 Financing: Reserve Fund</u></b>									
<b>ES4424 Fanshawe Park Road Sewer Replacement</b>				350		350			
To replace storm sewers and improve drainage on Fanshawe Park Road from Adelaide Street to McLean Drive. Work to be done in conjunction with transportation project TS1475 - Road Widening and water project EW3702 - Watermain Replacement.									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

**Service Grouping: Wastewater and Treatment**      **Category: Life Cycle Renewal**

	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES4825-14 Municipal Drain Reconstruction</b>		330		420	420	420	420	2,100	4,110

An annual program for reconstruction of various municipal drains throughout the City of London under the Drainage Act, as initiated by property owner petition, in order to alleviate flooding on private and public property.

<b>ES4834-14 Municipal Drain Maintenance</b>	70	50	70	70	70	70	350	750
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Minor repairs to any municipal drain within City boundaries in accordance with the Drainage Act. Provincial grants subject to availability. City share of individual projects varies, and this request reflects average only. Any drainage works constructed under this Act relating to the construction or improvement of drainage works by local assessment must be maintained and repaired by each local municipality.

**2014 Financing:**

Capital Levy	\$16
Grant	16
Local Improvement	18
<b>Total Financing</b>	<b>\$50</b>

<b>ES5084-14 Replacement Equipment Wastewater Treatment Plants</b>	2,600	500	500	1,550	1,300	1,300	8,400	16,150
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Replacement of aged or non-repairable mechanical, electrical and instrumentation equipment to maintain and upgrade current operations.

**2014 Financing: Capital Levy**

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

**Service Grouping: Wastewater and Treatment**

**Category: Life Cycle Renewal**

	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES5150-14 Pumping Station Improvements</b>				420	420	420	420	2,940	4,620
An annual program to monitor pumping stations (36), replace/upgrade various components such as hydraulic, structural, mechanical, electrical and instrumentation equipment and review of tributary flows to ensure adequate future capacity is available.									
<b>* ES5419 Managing the Sewer System and Assets</b>	1,790			320					2,110
This project encompasses a series of studies that lead to better management of the sewer system and its assets including such projects as Infrastructure and Maintenance Management Systems, enhanced process, condition and priority assessment tools.									
<b>ES5424 Roadway Improvements to Wastewater Treatment Plants</b>	402		100				100	602	
To rebuild and resurface deteriorated access roads and roads within plants and pumping stations.									
<b>2014 Financing: Reserve Fund</b>									
<b>ES6073 Oxford Wastewater Treatment Plant Membrane Replacement</b>								1,500	1,500
Replacement of filtration membrane modules for the Oxford Wastewater Treatment Plant.									
<b>ES6075 Greenway Incinerator Rebuild</b>							5,200	5,200	
Incinerator replacement includes shell, brick, exchanger, preheater, venturi scrubber and water cooling system.									
<b>Balance of approved projects for prior years comparison</b>	200	800						1,000	
<b>Total Life Cycle Renewal</b>	7,752	22,592	19,192	22,642	22,252	31,362	22,758	134,102	282,652

**Note:** \* represents projects that are classified as non-tangible capital assets. These expenditures will not result in the creation of a tangible asset (having physical substance).

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

**Service Grouping: Wastewater and Treatment**

**Category: Growth**

	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES2435 PDC's Installed with Claimable Urban Works</b>	150	(150)	50	50	50	50	50	250	500
Cost reimbursement for installing Private Drain Connections (PDC's) for existing properties at the time trunk sewers are installed in conjunction with the Urban Works Reserve Fund (UWRF) initiated projects. Constructing PDC's in this manner avoids significant connection costs, disruption and road restoration costs.									
<b><u>2014 Financing: Reserve Fund</u></b>									
<b>ES2466 Hyde Park Pumping Station Upgrades</b>		200						115	315
To upgrade Hyde Park Pumping Station following the provision of new trunk sanitary sewers on Hyde Park Road and Oxford Street (ES2493). Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).									
<b><u>2014 Financing: Development Charges</u></b>									
<b>ES2475 Dingman Creek Main Channel Remediation Works</b>			165	660	2,343	2,343			5,511
To undertake remediation to minimize flooding/erosion, improve conveyance and eliminate existing deficiencies within the main channel of Dingman Creek. To construct a water resources management system to meet the stormwater requirements associated with land use changes and optimize the performance of this system to meet the Provincial water quality and flood control objectives. Growth splits are consistent with the 2009 Development Charge Study. 14% Growth Related (13.4% DC Rate Supported).									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

**Service Grouping: Wastewater and Treatment**

**Category: Growth**

	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES2485 Old Oak Servicing</b>	3,360						3,740		7,100
To improve conveyance capacity and undertake erosion remediation works to address the existing deficiencies and support growth in the area of the White Oak Road corridor, from Exeter Road to Dingman Drive and south of Dingman Creek. This area is in the Dingman Creek subwatershed and will require regional stormwater management facilities to meet Provincial water quality and flood control objectives. 70% Industrial Growth.									
<b>ES2493 Hyde Park Trunk Sanitary Sewer</b>	500	4,850	650						6,000
The Hyde Park Trunk Sanitary Sewer is a two-phased project identified by the 2009 DC Study and scheduled in the Growth Management Implementation Strategy. Phase 1 (2013) includes a trunk sewer on Oxford Street from Sanatorium Road to Royal York Road and on Royal York Road to Hyde Park Road. Phase 2 (2014) will continue the trunk sewer and a portion of new forcemain from Hyde Park Road at Royal York Road to the existing Hyde Park Pumping Station located south of the CP Rail tracks. Coordinated with road reconstruction TS1477-1 and TS1493, and watermain projects EW3550, EW3595 and EW3685. Growth splits are consistent with the 2009 Development Charge Study. 86% Growth Related (85.1% DC Rate Supported).									
<b>2014 Financing:</b>									
Industrial Oversizing Reserve Fund		\$6							
Reserve Fund		91							
Development Charges		553							
<b>Total Financing</b>		<b>\$650</b>							

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

**Service Grouping: Wastewater and Treatment**

**Category: Growth**

	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES2681 Mud Creek Erosion and Flooding Remediation Works</b>	2,700			2,237	3,877				8,814

To undertake remediation works to minimize and eliminate erosion, conveyance and flooding deficiencies for the north portion of the Mud Creek system within the Mud Creek East subwatershed. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (93.7% DC Rate Supported).

<b>ES2685 Greenway Expansion and Upgrade</b>	20,775	5,905	19,463	46,143
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18 MLD expansion and upgrade of the Greenway Wastewater Treatment Operations. 89% Growth Related (64.9% DC Rate Supported).

**2014 Financing:**

Sewage Treatment Capacity Reserve Fund	\$3,118
Reserve Fund	3,683
Development Charges	12,662
<b>Total Financing</b>	<b>\$19,463</b>

<b>ES2688 Mud Creek Remediation South</b>	600	640	1,240
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To undertake remediation works to minimize and eliminate the existing erosion, conveyance, and flooding deficiencies of the south portion of the Mud Creek subwatershed. Construction of the stormwater management system to meet the Provincial flood control and water quality objectives. Growth share differs from the 2009 Development Charge Study arising from the environmental assessment. 30% Growth Related (28.8% DC Rate Supported).

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

**Service Grouping: Wastewater and Treatment**

**Category: Growth**

	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ESSWM-HP5 SWM Facility - Hyde Park No. 5</b>		978	5,540						6,518
To design and construct the Hyde Park No. 5 Stormwater Management Facility and applicable servicing works in order to support land development within the Hyde Park Class Environmental Assessment Study Area. 100% Growth Related (95.9% DC Rate Supported).									
<b>2014 Financing:</b>									
Reserve Fund									
Development Charges									
Total Financing									
<b>ESSWM-MM4 SWM Facility - Murray Marr No. 4</b>			2,100						2,100
Construction of regional Stormwater Management Facility No. 4 to service new development and minimize area surface flooding, erosion and provide the required water quality. 100% Growth Related (78% DC Rate Supported).									
<b>2014 Financing:</b>									
Industrial Oversizing Reserve Fund									
Development Charges									
Total Financing									
<b>ESSWM-WO3 SWM Facility - White Oak No. 3</b>		85	340	2,412					2,837
To undertake design and construction of the White Oaks No. 3 Stormwater Management Facility and applicable servicing works in order to support the development within the White Oaks Development Area. 100% Growth Related (95.9% DC Rate Supported).									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

**Service Grouping: Wastewater and Treatment**

**Category: Growth**

	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ESSWM-WO4 SWM Facility - White Oaks No. 4</b>								6,198	6,198
To design and construct the White Oaks No. 4 Stormwater Management Facility and associated works to eliminate and minimize existing flooding and to support and service the proposed land development. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-SC10 SWM Facility - Stoney Creek No. 10</b>					60	235	1,666		1,961
To design and construct the Stoney Creek No. 10 Stormwater Management Facility and associated works in order to support and service the development within the Stoney Creek Development Area. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-SC8 SWM Facility - Stoney Creek No. 8</b>								1,051	1,051
To design and construct the Stoney Creek No. 8 Stormwater Management Facility and associated works in order to service the developments within the Stoney Creek Development Area. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-PD4 SWM Facility - Pincombe Drain No. 4</b>				154	616	4,358			5,128
To design and construct the Pincombe Drain No. 4 Stormwater Management Facility and applicable servicing works in order to support the development within the Pincombe Drain Environmental Assessment Study Area. 100% Growth Related (95.9% DC Rate Supported).									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>	<b>Category: Growth</b>								
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ESSWM-PD5 SWM Facility - Pincombe Drain No. 5</b>								1,731	1,731
To design and construct the Pincombe Drain No. 5 Stormwater Management Facility and applicable servicing works in order to support the development within the Pincombe Drain Environmental Assessment Study Area. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-PDR Pincombe Drain Remediation</b>		500	1,700	2,000				4,200	
To design and construct the remediation of the Pincombe Drain in order to support development within the Pincombe Drain Environmental Assessment Study Area. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (95.9% DC Rate Supported).									
<b><u>2014 Financing:</u></b>									
Reserve Fund		\$70							
Development Charges		1,630							
<b>Total Financing</b>		<b>\$1,700</b>							
<b>ESSWM-KILSE SWM Facility - Kilally South East</b>								3,747	3,747
To design and construct Kilally South East Stormwater Management Facility and associated works in order to service the development within the Kilally South Development Area. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-PKR SWM Facility - Parker</b>								4,367	4,367
To design and construct the Parker Stormwater Management Facility and associated works in order to service the development within the Summerside Development Area. 100% Growth Related (95.9% DC Rate Supported).									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>		<b>Category: Growth</b>							
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ESSWM-DGMJ6 SWM Facility - Dingman Trib 'J' No. 6</b>				142	568	4,028			4,738
To design and construct the Dingman Trib 'J' No. 6 Stormwater Management Facility and associated works in order to service the proposed land development within the Dingman Creek Drainage area. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-KILSW SWM Facility - Kilally South West</b>							155	5,073	5,228
To design and construct Kilally South West Stormwater Management Facility and associated works in order to service the development within the Kilally South Development Area. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-STM RM Dingman Creek and Other Stream Remediation</b>		2,000					2,000	4,000	
To design and construct the Dingman Creek Stream Remediation/Reclamation works in order to service the proposed land development within the City's 20 Year Growth Boundary. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-JKN SWM Facility - Jackson</b>							1,000	1,000	
To design and construct the Jackson Stormwater Management Facility and associated works in order to service the development within the Summerside Development Area. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-PBGS SWM Facility - Pottersburg South</b>							2,400	2,400	
To design and construct Pottersburg South Stormwater Management Facility and associated works to service the proposed industrial/commercial land development within the Pottersburg Drainage Area. 100% Growth Related (95.9% DC Rate Supported).									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>		<b>Category: Growth</b>							
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ESSWM-HURA1 SWM Facility - Huron No. 1 (T112)</b>								2,837	2,837
To design and construct the Huron No. 1 Stormwater Management Facility and associated works to service the proposed industrial/commercial land development within the Huron Industrial Area. 100% Growth Related (95.9% DC Rate Supported).									
<b>ESSWM-SB SWM Facility - Wickerson No. S-B</b>		484	2,743						3,227
To design and construct the Wickerson No. S-B Stormwater Management Facility and associated works to service the proposed land development within the Wickerson Road Development Area. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (95.9% DC Rate Supported).									
<b><u>2014 Financing:</u></b>									
Reserve Fund		\$113							
Development Charges		2,630							
<b>Total Financing</b>		<b>\$2,743</b>							
<b>ES3020-RVBTC SWM Facility - River Bend Trib C</b>		6,487	(4,300)		430	3,870			6,487
To design and construct the River Bend Tributary 'C' Stormwater Management Facility and applicable servicing works in order to support land development within the Trib 'C' Municipal Class EA study area. 100% Growth Related (95.9% DC Rate Supported).									
<b>ES3080 Greenway Incinerator Refurbishment</b>		1,345	621		2,875		1,208	1,000	7,049
To refurbish the incinerator for existing and additional sludge management capacity at Greenway Wastewater Treatment Operations for City wide growth. Growth splits are consistent with the 2009 Development Charge Study. 13% Growth Related (10.5% DC Rate Supported).									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>		<b>Category: Growth</b>							
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES3201 Dingman On-line Stormwater Management Flood Control Facility #1</b>		195	760	5,435					6,390
To undertake remediation works to minimize and eliminate existing flooding, erosion and conveyance capacity deficiencies for the Dingman Creek System and to construct a wetland water resources remediation system. Growth splits are consistent with the 2009 Development Charge Study. 10% Growth Related (9.6% DC Rate Supported).									
<b><u>2014 Financing:</u></b>									
Reserve Fund		\$687							
Development Charges		73							
<b>Total Financing</b>		<b>\$760</b>							
<b>ES3202 Dingman On-line Stormwater Management Flood Control Facility #2</b>		150	560	4,030					4,740
To undertake remediation works to minimize and eliminate existing flooding, erosion and conveyance capacity deficiencies for the Dingman Creek System and to construct a water resources remediation/reclamation system. Growth splits are consistent with the 2009 Development Charge Study. 15% Growth Related (14.4% DC Rate Supported).									
<b><u>2014 Financing:</u></b>									
Reserve Fund		\$128							
Development Charges		22							
<b>Total Financing</b>		<b>\$150</b>							

**Wastewater and Treatment**  
**Capital Expenditure Detail**  
**(\$000's)**

**Service Grouping: Wastewater and Treatment** **Category: Growth**

	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>* ES4410 Funding of Exemptions for Sanitary and Storm</b>	400	125	225	125	125	125	125	625	1,875

This project provides funding necessary to reimburse the UWRF for both the non-growth share and the growth share attributable to exempted development (ie. Industrial and some Institutional) for sanitary and storm sewer works. The Development Charges study is statutorily required to identify the shares of various projects attributable to non-growth and to different types of development (ie. Residential, Institutional, Commercial and Industrial-RCI). Project will need to be re-evaluated in 2015, pending DC policy decisions on new approach to funding DC exemptions (Industrial and Institutional).

**2014 Financing:** Reserve Fund

<b>ES5014 Oxford Wastewater Treatment Plant Expansion and Upgrade Phase II</b>	16,200	16,200
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Expansion and upgrade of the Oxford Wastewater Treatment Plant to increase hydraulic capacity by 9 MLD to treat projected flows. 100% Growth Related (97.6% DC Rate Supported).

<b>ES5132 East Park Pumping Station Expansion</b>	200	1,453	1,653
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Expand and upgrade existing pumping station to handle additional flow of 18.2 MLD due to industrial growth in southeast London. Growth splits are consistent with 2009 Development Charge Study. 100% Growth Related (20% DC Rate Supported).

**Note:** \* represents projects that are classified as non-tangible capital assets. These expenditures will not result in the creation of a tangible asset (having physical substance).

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>	<b>Prior Years</b>							<b>Category: Growth</b>		
		2013	2014	2015	2016	2017	2018	2019 to 2023	Total	
<b>ES5142 Pottersburg Wastewater Treatment Plant Expansion and Upgrade</b>								1,550	29,450	31,000
Expansion and upgrade to increase hydraulic capacity by 9 MLD to accommodate increase in development areas tributary to the plant. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (47.3% DC Rate Supported).										
<b>ES5247 and ES5248 Wonderland/Wharncliffe Road South Trunk Gravity Sewer</b>		525	4,000			300	2,981		7,806	
Construction of a gravity sanitary sewer from the Bostwick area southerly to the proposed Wonderland-Dingman Pumping Station. ES5247 constructs 1,230m of sanitary sewer along Wharncliffe Road South to Wonderland Road. ES5248 will construct trunk sewer from Wharncliffe Road/Wonderland Road to the proposed Wonderland-Dingman Pumping Station. Growth splits are consistent with the 2009 Development Charge Study. 89% Growth Related (89% DC Rate Supported) and 87% Growth Related (87% DC Rate Supported) respectively.										
<b><u>2014 Financing:</u></b>										
Reserve Fund		\$58								
Development Charges		467								
Total Financing		<hr/> \$525								
<b>ES5252 Kilally South Trunk Sanitary Sewer</b>			200	1,729				1,929		
Construction of the Kilally South Trunk from the Edgevalley Phase I Subdivision part way to Kilally Road. Routing as identified in the Kilally South Area Plan. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).										

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>	<b>Category: Growth</b>								
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES5254 Kilally Road - Extension of Kilally South Trunk Sanitary Sewer</b>								1,148	1,148
Extension of the Kilally South Sewer along Kilally Road easterly of Sandford Street. Work as identified in the Kilally South Area Plan. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported).									
<b>ES5256 Exeter Road Trunk Sanitary Sewer</b>							230	2,660	2,890
For the extension of municipal sanitary sewer on Exeter Road from Breck Avenue to Meadowgate Boulevard (1,000m) and northerly. Growth splits are consistent with the 2009 Development Charge Study. 100% Growth Related (100% DC Rate Supported). (SS12B)									
<b>ES5260 Lambeth Southland Servicing Solution</b>	250	100	850	7,000					8,200
To construct trunk sanitary sewers in the existing Lambeth area to service growth areas as well as provide trunk sanitary servicing for existing unserviced area of Lambeth. Trunk sewers will outlet to the proposed Wonderland-Dingman Pumping Station and allow decommissioning of the existing Southland Wastewater Treatment Plant (Southside SS3). Growth splits are consistent with the 2009 Development Charge Study. 96% Growth Related (95.3% DC Rate Supported).									
<b><u>2014 Financing:</u></b>									
Reserve Fund			\$40						
Development Charges			810						
Total Financing			\$850						

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>	<b>Prior Years</b>							<b>2019 to 2023</b>		<b>Total</b>
		2013	2014	2015	2016	2017	2018			
<b>ID2058 Innovation Park - Sewer Oversizing Works</b>	7,715			550	1,000					9,265
Project to assume stormwater management and oversizing sewer works for Innovation Park Phase III. Coordinated with CAO's Industrial Land Project ID1168, and Water Oversizing Project EW3606. 58.2% Growth Related (5.6% DC Rate Supported).										
<b>Balance of approved projects for prior years comparison</b>	6,847	2,936								9,783
<b>Total Growth</b>	51,129	14,444	34,956	25,808	16,849	17,658	15,270	79,192	255,306	

**Wastewater and Treatment**  
**Capital Expenditure Detail**  
**(\$000's)**

	<b>Service Grouping: Wastewater and Treatment</b>		<b>Category: Service Improvements</b>						
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
* ES2092-14 Sump Pump Grant Program		100		100	100	100	500	900	1,800
An annual program to provide grants for privately installed sump pumps, backwater valves, sewer ejector and storm sewer private drain connections. Maximum subsidy of \$2,650 per house for external and \$1,875 for internal connection and a \$3,775 maximum for storm sewer private drain connection. The maximum subsidy for a sewage ejector with sump pump is \$1,525 and \$575 for a backwater valve. Note that these rates are currently being reviewed.									
* ES2108 Thames River Clear Water Revival		30	30	30	30	30			150
Staff initiated a regional watershed project to assist in the wise management and protection of the Thames River watershed. This project is an update of the 1975 "Thames River Basin Study" and borrows approaches from the successful HELP Clean Water partnership which focused on our regional drinking water supplies. Project funding to be used to match funding from other partners for an external project coordinator and meeting expenses.									
<b>2014 Financing: Capital Levy</b>									

**Note:** \* represents projects that are classified as non-tangible capital assets. These expenditures will not result in the creation of a tangible asset (having physical substance).

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

	Service Grouping: Wastewater and Treatment	Prior Years	Category: Service Improvements						2019 to 2023	Total										
			2013	2014	2015	2016	2017	2018												
	<b>ES2442-14 Extension of Services</b>		100	900	400	1,200	800	800	4,000	8,200										
Cost sharing project for the extension of services to unserviced parts of the urban growth area and beyond. City's share is in accordance with the Local Improvement Act on case-by-case basis, due to exemptions that occur on each project.																				
<b><u>2014 Financing:</u></b>																				
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Reserve Fund</td> <td style="width: 10%; text-align: right;">\$450</td> <td style="width: 60%;"></td> </tr> <tr> <td>Local Improvement</td> <td style="text-align: right;">450</td> <td></td> </tr> <tr> <td><b>Total Financing</b></td> <td style="text-align: right;"><b>\$900</b></td> <td></td> </tr> </table>											Reserve Fund	\$450		Local Improvement	450		<b>Total Financing</b>	<b>\$900</b>		
Reserve Fund	\$450																			
Local Improvement	450																			
<b>Total Financing</b>	<b>\$900</b>																			
<b>ES2452 Water Quality and Storm Flow Conveyance Monitoring Program</b>																				
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">1,400</td> <td style="width: 10%; text-align: right;">280</td> <td style="width: 10%; text-align: right;">280</td> <td style="width: 10%; text-align: right;">280</td> <td style="width: 60%;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">2,240</td> </tr> </table>											1,400	280	280	280						2,240
1,400	280	280	280																	
				2,240																
To undertake monitoring works to evaluate the water quality and storm flow conveyance for various watercourses and the Thames River.																				
<b><u>2014 Financing:</u></b> Reserve Fund																				

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>		<b>Category: Service Improvements</b>							
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES2464-14 Separation and CSO Program</b>		4,088	5,590	1,480	6,390	6,350	6,000	35,700	65,598
This project is undertaken to investigate, monitor, model, develop and implement solutions to reduce or eliminate combined sewer overflows (CSO's). Study work will develop a list of priorities. Some projects are already defined and planned for design and construction in the short term. Construction of separate storm and sanitary sewers are planned for a number of areas, which will effectively reduce the volume of storm drainage diverted to the sanitary sewer system and prevent/reduce CSO's to the Thames River. Coordinated with water project EW3656-2 - Wellington Road Area Watermain Replacement.									
<b>2014 Financing:</b>									
Capital Levy			\$1,480						
Reserve Fund			1,360						
Federal Gas Tax Grant			2,750						
Total Financing			\$5,590						
<b>ES2468 Problematic Sump Pump Discharge Program</b>		200	200	200	200	200	200		1,000
Eliminate chronic icing and wet conditions due to problematic sump pump discharges on City right-of-way.									
<b>2014 Financing: Reserve Fund</b>									
<b>ES2469 Southland Pollution Control Plant Conversion</b>		250	1,550						1,800
Decommissioning of Southland Pollution Control Plant (PCP) and construction of a new pumping station/forcemain to improve long-term sanitary servicing within the existing Lambeth community. The forcemain from the new pumping station to outlet to Hamlyn Trunk Sewer.									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>	<b>Category: Service Improvements</b>								
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES2474 UTRCA Remediating Flood Control Works within City Limits</b>	2,580	2,150		1,200	940	940	2,400	7,700	17,910
Program in partnership with the Upper Thames River Conservation Authority (UTRCA) who contributes matching funding through provincial programs for maintaining and reconstructing components of the City's flood and erosion control infrastructure.									
<b>ES3013 Carling Creek Trunk Storm Phase IV</b>							100	1,350	1,450
Construction of trunk storm sewer along C.P.R. tracks between Waterloo Street and Maitland Street.									
<b>ES3016 Murray Marr Stormwater Management Facility #3</b>								1,150	1,150
Construction of regional Stormwater Management Facility #3 in the Murray Marr drainage area.									
<b>ES3040-14 Minor Surface Flooding and Erosion</b>	210	210	210	210	210	210	210	1,050	2,310
Annual program to construct works in order to alleviate surface flooding and erosion problems affecting private property, which are outside the scope of the municipal sump pump grant program.									
<b><u>2014 Financing: Reserve Fund</u></b>									
<b>ES3054 Burbrook Trunk Storm Sewer Phase IV</b>	7,452	2,300	1,550	4,800					16,102
Continuation of construction of trunk storm sewer between Pine Street and Brydes Street, and section just south of Margaret Street. To relieve severe flooding in Burbrook Watershed. This will be the last phase of the project.									
<b><u>2014 Financing: Reserve Fund</u></b>									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>		<b>Category: Service Improvements</b>							
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES3058 Burbrook Lateral Program</b>		200	2,300					6,680	9,180
Burbrook Lateral Storm Sewers provide stormwater drainage to areas in the Burbrook Drainage Area, which are tributary to the Burbrook Trunk Storm Sewer. Coordinated with Water Project EW3624 - Burbrook Watermain Upgrade Phase II. Phases subject to changes depending on completion of Burbrook Trunk Storm Sewer.									
<b>2014 Financing: Reserve Fund</b>									
<b>ES3059 Dayus Creek Trunk Storm Sewer Replacement</b>				400				1,000	1,400
Replace the existing 1,200mm trunk storm sewer outlet with a 2,400mm storm sewer from Ada Street to Terrace Street to properly service the existing watershed.									
<b>ES3087 Huron Industrial Park Service</b>		1,123						3,500	4,623
Servicing the next phase of general industrial land to provide adequate inventory of large block "shovel ready" land to promote and accommodate future industrial land requirements. Project coordinated with tax supported project ID1170.									
<b>ES3097 Vauxhall and Pottersburg Pumping Stations and Force mains</b>			300	645			5,055		6,000
Class Environmental Assessment, design and construction of a two way forcemain between Vauxhall and Pottersburg Wastewater Treatment Plants including upgrades to Chelsea Heights Pumping Station and a new pumping station at Pottersburg to convey flows between plants.									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>	<b>Category: Service Improvements</b>								
	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES3098 Greenway Wastewater Treatment Plant Flood Proofing and Effluent Pumping Station</b>						100	350	7,550	8,000
Engineering and construction of works to protect the Greenway Wastewater Treatment Plant from the 250 year flood including walls, barriers and an effluent pumping station to ensure treated flow discharge when Thames River levels are elevated.									
<b>ES3111 Local Improvement - White Oak Industrial Subdivision Sewer</b>							9,375	9,375	
Cost sharing project for the installation of sanitary sewers for the existing White Oak Industrial Subdivision. White Oak South Sanitary Servicing Environmental Assessment completed in 2005. Local servicing to be provided as local improvement under City policy regarding extension of services to existing unserviced areas, following completion of GMIS White Oak Trunk Sewer in 2011. Property owners pay 75% of costs, City pays 25%. To be carried out in conjunction with Local Improvement Water Servicing									
EW3806. Budget for 2020 has been updated to reflect exemptions under the Local Improvement Act. The City has been paying 100% design fees, 25% of construction costs, and any exemptions under the Local Improvement Act. It is estimated that this represents 60% of the total project costs. Property owners surveyed informally declined Local Improvement in 2012. Project deferred to 2020 or to time when road life cycle replacement is scheduled.									
<b>ES4422 Permanent Flow Monitor Installation</b>		400						400	
Install permanent flow monitors at select sewer overflow locations to comply with Environment Canada regulations. Requires permanent hydro connection and communication with SCADA.									
<b><u>2014 Financing: Reserve Fund</u></b>									

**Wastewater and Treatment  
Capital Expenditure Detail  
(\$000's)**

<b>Service Grouping: Wastewater and Treatment</b>	<b>Category: Service Improvements</b>	Prior Years	2013	2014	2015	2016	2017	2018	2019 to 2023	Total
<b>ES5165-14 New Equipment Wastewater Treatment Plants</b>			50			50		100		200
Annual program for additional mechanical, electrical and instrumentation equipment required to maintain and improve operations.										
<b>2014 Financing:</b> Reserve Fund										
<b>ID2058-5 Innovation Park Phase V - Sanitary Oversizing</b>			400	3,800				300	4,500	
Servicing of the next phase of light industrial land in the Veterans Memorial Parkway/401 corridor to provide adequate inventory of large block "shovel ready" land to promote and accommodate future industrial land requirements. Project to be coordinated with tax supported project ID1168-5.										
<b>Balance of approved projects for prior years comparison</b>		6,310	4,831							11,141
<b>Total System Improvement</b>		18,895	14,289	11,510	10,050	15,065	8,750	15,615	80,355	174,529
<b>Total Wastewater and Treatment</b>		77,776	51,325	65,658	58,500	54,166	57,770	53,643	293,649	712,487

## **Wastewater and Treatment**

### **2014 Reserve Funds and Reserves**

**Wastewater and Treatment  
Reserve Funds and Reserves  
(\$000's)**

Sewage Works Reserve Fund (1)	Actual 2012	Projected 2013	Approved 2014	Forecast				
				2015	2016	2017	2018	2019 - 2023
Opening Balance	43,077	44,775	14,775	16,860	17,021	21,568	20,356	20,100
Contributions	16,848	16,669	20,185	21,850	20,604	19,425	18,521	93,702
Additional Contribution (surplus and account closing)	1,184							
Interest earned	826	735	390	418	476	518	499	3,481
	<b>\$61,935</b>	<b>\$62,179</b>	<b>\$35,350</b>	<b>\$39,128</b>	<b>\$38,101</b>	<b>\$41,511</b>	<b>\$39,376</b>	<b>\$117,283</b>
Drawdowns - Current Year	6,100	14,337	18,490	22,107	16,533	21,155	19,276	80,310
Drawdowns - Prior Years	11,060	33,067						
Total Drawdowns (2)	<b>\$17,160</b>	<b>\$47,404</b>	<b>\$18,490</b>	<b>\$22,107</b>	<b>\$16,533</b>	<b>\$21,155</b>	<b>\$19,276</b>	<b>\$80,310</b>
<b>Ending Balance</b>	<b>\$44,775</b>	<b>\$14,775 (3)</b>	<b>\$16,860</b>	<b>\$17,021</b>	<b>\$21,568</b>	<b>\$20,356</b>	<b>\$20,100</b>	<b>\$36,973</b>

Notes:

- (1) This reserve fund is intended to support the capital needs of the wastewater system with an estimated replacement value of \$4.0 billion.
- (2) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.
- (3) Subject to Council approval of the "Greenway Expansion Report" tabled on October 28, 2013, the reserve fund balance has been adjusted to reflect the recommendation to release \$5.3 million of approved budgeted drawdowns from ES5234 Adelaide WWTP CSO (-\$2.8 million), ES5143 Hauled Liquid Waste Receiving (-\$2.4 million), ES5233 Vauxhall WWTP Expansion (-\$0.05 million) and ES5431 Adelaide WWTP Expansion (-\$0.05 million). This funding will be required to fund ES2685 Greenway Expansion project.

Industrial Oversizing Sewer Reserve Fund (1)	Actual 2012	Projected 2013	Approved 2014	Forecast				
				2015	2016	2017	2018	2019 - 2023
Opening Balance	7,779	8,685	6,787	8,002	8,487	5,608	6,423	4,633
Contributions	1,500	1,500	1,500	2,000	2,000	2,000	2,000	10,000
Interest earned	136	191	183	204	175	149	137	380
	<b>\$9,415</b>	<b>\$10,376</b>	<b>\$8,470</b>	<b>\$10,206</b>	<b>\$10,662</b>	<b>\$7,757</b>	<b>\$8,560</b>	<b>\$15,013</b>
Debt Servicing Cost - Existing Debt	722	322						
Debt Authorized but not Issued				1,109	1,219	1,309	1,309	6,545
Forecasted Future Debt								
Drawdowns - Current Year		214	468	610	3,835	25	2,618	4,109
Drawdowns - Prior Years	8	3,053						
Total Drawdowns (2)	<b>\$730</b>	<b>\$3,589</b>	<b>\$468</b>	<b>\$1,719</b>	<b>\$5,054</b>	<b>\$1,334</b>	<b>\$3,927</b>	<b>\$10,654</b>
<b>Ending Balance</b>	<b>\$8,685</b>	<b>\$6,787</b>	<b>\$8,002</b>	<b>\$8,487</b>	<b>\$5,608</b>	<b>\$6,423</b>	<b>\$4,633</b>	<b>\$4,359</b>

Notes:

- (1) This reserve fund was established to provide funding for the servicing costs in Industrial Developments and oversizing in growth projects.
- (2) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

**Wastewater and Treatment  
Reserve Funds and Reserves  
(\$000's)**

<b>Sewage Treatment Plant Capacity Reserve Fund (1)</b>	<b>Actual 2012</b>	<b>Projected 2013</b>	<b>Approved 2014</b>	<b>Forecast</b>				
				<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019 - 2023</b>
Opening Balance	5,410	6,554	3,498	1,488	2,584	3,708	4,860	7,250
Contributions	1,046	1,046	1,046	1,046	1,046	1,046	3,046	12,230
Interest	98	124	62	50	78	106	150	575
	<b>\$6,554</b>	<b>\$7,724</b>	<b>\$4,606</b>	<b>\$2,584</b>	<b>\$3,708</b>	<b>\$4,860</b>	<b>\$8,056</b>	<b>\$20,055</b>
Drawdowns - Current Year		946	3,118				806	15,475
Drawdowns - Prior Years		3,280						
Total Drawdowns	<b>\$0</b>	<b>\$4,226</b>	<b>\$3,118</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$806</b>	<b>\$15,475</b>
<b>Ending Balance</b>	<b>\$6,554</b>	<b>\$3,498</b>	<b>\$1,488</b>	<b>\$2,584</b>	<b>\$3,708</b>	<b>\$4,860</b>	<b>\$7,250</b>	<b>\$4,580</b>

Notes:

(1) The Sewage Treatment Plant Capacity Reserve Fund was established in 2007 to provide a funding source for the sewage treatment plant capacity in order to eliminate the need for the more costly option of issuing debenture financing, consistent with the Corporate Strategic Financial Plan adopted by Council.

<b>City Services Sanitary Sewer Levies Reserve Fund</b>	<b>Actual 2012</b>	<b>Projected 2013</b>	<b>Approved 2014</b>	<b>Forecast</b>				
				<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019 - 2023</b>
Opening Balance	12,901	14,102	5,994	3,903	1,750	5,116	7,416	6,889
Levies	6,036	5,529	5,446	6,064	6,294	6,956	6,956	34,615
Interest	266	248	122	70	85	155	177	627
	<b>\$19,203</b>	<b>\$19,879</b>	<b>\$11,562</b>	<b>\$10,037</b>	<b>\$8,129</b>	<b>\$12,227</b>	<b>\$14,549</b>	<b>\$42,131</b>
Refunds	24	64						
Growth portion - Existing Debt Repayment	2,049	2,175	1,967	1,875	1,821	1,763	971	2,990
Growth portion - Debt authorized - Not issued				437	702	702	702	14,440
Forecasted Future Debt								9,215
Drawdowns - Current Year		4,519	5,692	5,975	490	2,346	5,987	11,118
Drawdowns - Prior Years	3,028	7,127						
Total Drawdowns (1)	<b>\$5,101</b>	<b>\$13,885</b>	<b>\$7,659</b>	<b>\$8,287</b>	<b>\$3,013</b>	<b>\$4,811</b>	<b>\$7,660</b>	<b>\$37,763</b>
<b>Ending Balance</b>	<b>\$14,102</b>	<b>\$5,994 (2)</b>	<b>\$3,903</b>	<b>\$1,750</b>	<b>\$5,116</b>	<b>\$7,416</b>	<b>\$6,889</b>	<b>\$4,368</b>

Notes:

(1) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.

(2) Subject to Council approval of the "Greenway Expansion Report" tabled on October 28, 2013, the reserve fund balance has been adjusted to reflect the recommendations to defer \$3.5 million of approved budgeted drawdowns from ES5233 Vauxhall WWTP Expansion (\$1.6 million) and ES5431 Adelaide WWTP Expansion Phase II (\$1.9 million); and \$1.2 million of debt from ES5233 Vauxhall WWTP Expansion. This funding will be required to fund ES2685 Greenway Expansion project.

(3) Effective August 4, 2009 Council approved the adoption of the new Development Charge policy, a component of which is directed to Sewer Services. Development charges reduce the demands on sewer rates with respect to funding capital requirements for growth related expenses. At times, it may be necessary to finance these growth related capital requirements through issuance of debt. Future payments on this debt will be financed through capital development charges.

**Wastewater and Treatment  
Reserve Funds and Reserves  
(\$000's)**

<b>City Services Major SWM Levies Reserve Fund</b>	<b>Actual 2012</b>	<b>Projected 2013</b>	<b>Approved 2014</b>	<b>Forecast</b>				
	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019 - 2023</b>			
Opening Balance	6,974	10,509	1,602	1,303	1,421	1,767	725	2,261
Levies	6,199	5,630	5,433	5,831	6,042	6,647	6,647	33,012
Interest	163	150	36	34	38	31	37	370
	<b>\$13,336</b>	<b>\$16,289</b>	<b>\$7,071</b>	<b>\$7,168</b>	<b>\$7,501</b>	<b>\$8,445</b>	<b>\$7,409</b>	<b>\$35,643</b>
Refunds	45	118						
Growth portion - Existing Debt Repayment	592	724	1,123	1,127	1,132	1,133	1,135	4,367
Growth portion - Debt authorized - Not issued			42	1,301	3,550	3,550	3,550	17,750
Forecasted Future Debt								11,835
Drawdowns - Current Year	1,787	5,404	4,603	3,319	1,052	3,037	463	202
Drawdowns - Prior Years	403	8,441						
Total Drawdowns (1)	<b>\$2,827</b>	<b>\$14,687</b>	<b>\$5,768</b>	<b>\$5,747</b>	<b>\$5,734</b>	<b>\$7,720</b>	<b>\$5,148</b>	<b>\$34,154</b>
<b>Ending Balance</b>	<b>\$10,509</b>	<b>\$1,602</b>	<b>\$1,303</b>	<b>\$1,421</b>	<b>\$1,767</b>	<b>\$725</b>	<b>\$2,261</b>	<b>\$1,489</b>

Notes:

(1) Drawdowns are based on full capital needs and not intended to project the actual cash flow of funds being utilized in a particular year.  
 (2) Effective August 4, 2009 Council approved the adoption of the new Development Charge policy, a component of which is directed to Stormwater Management Services. Development charges reduce the demands on sewer rates with respect to funding capital requirements for growth related expenses. At times, it may be necessary to finance these growth related capital requirements through issuance of debt. Future payments on this debt will be financed through capital development charges.

<b>Wastewater Rate Stabilization Reserve (1)</b>	<b>Actual 2012</b>	<b>Projected 2013</b>	<b>Approved 2014</b>	<b>Forecast</b>				
	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019 - 2023</b>			
Opening Balance	1,709	1,887	1,887	1,887	1,887	1,887	1,887	1,887
Contributions	178							
	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>
Drawdowns								
<b>Ending Balance</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>	<b>\$1,887</b>

Notes:

(1) This reserve was established to assist with future year shortfalls in revenue and/or emergency expenditures in the wastewater operating budget. The reserve balance may increase/decrease subject to the 2013 year end operating position.

**Wastewater and Treatment  
Reserve Funds and Reserves  
(\$000's)**

Efficiency, Effectiveness and Economy Reserve (1)	Actual 2012	Projected 2013	Approved 2014	Forecast				
				2015	2016	2017	2018	2019 - 2023
Opening Balance Contributions	730	899	983	983	983	983	983	983
	169	84						
	<b>\$899</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>
Drawdowns								
<b>Ending Balance</b>	<b>\$899</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>	<b>\$983</b>

Notes:

(1) Beginning in 2004, all positions, with some exceptions, are subject to 90 days savings corporately. The savings from these positions are contributed to Efficiency, Effectiveness and Economy reserves to be used as a one-time funding source for initiatives recommended by the Senior Leadership Team.

Sump Pump, Sewage Ejector and Storm PDC Program Reserve Fund (1)	Actual 2012	Projected 2013	Approved 2014	Forecast				
				2015	2016	2017	2018	2019 - 2023
Opening Balance Contributions - Surplus Interest	506	514	527	540	554	568	582	597
	8	13	13	14	14	14	15	78
	<b>\$514</b>	<b>\$527</b>	<b>\$540</b>	<b>\$554</b>	<b>\$568</b>	<b>\$582</b>	<b>\$597</b>	<b>\$675</b>
Drawdowns								
<b>Ending Balance</b>	<b>\$514</b>	<b>\$527</b>	<b>\$540</b>	<b>\$554</b>	<b>\$568</b>	<b>\$582</b>	<b>\$597</b>	<b>\$675</b>

Notes:

(1) This reserve fund was established in 2009 to provide funding for the Grant Program for Sump Pump, Sewage Ejector and Storm Private Drain Connection or other mechanisms or capital works to fund protection from basement flooding, once the balance of the capital project for the current year has been exhausted.

Disconnection of Sewer Cross-Connection Loan Program Reserve Fund (1)	Actual 2012	Projected 2013	Approved 2014	Forecast				
				2015	2016	2017	2018	2019 - 2023
Opening Balance Contributions - Surplus Interest	101	102	105	108	111	114	117	120
	1	3	3	3	3	3	3	15
	<b>\$102</b>	<b>\$105</b>	<b>\$108</b>	<b>\$111</b>	<b>\$114</b>	<b>\$117</b>	<b>\$120</b>	<b>\$135</b>
Drawdowns								
<b>Ending Balance</b>	<b>\$102</b>	<b>\$105</b>	<b>\$108</b>	<b>\$111</b>	<b>\$114</b>	<b>\$117</b>	<b>\$120</b>	<b>\$135</b>

Notes:

(1) This reserve fund was established in 2011 to provide funding for the Sewer Cross-Connection Loan Program to provide financial assistance to those residential dwellings with a confirmed cross-connection to an existing storm sewer that services that street. Repayment will be made over 10 years.

## **Wastewater and Treatment**

### **2014 Debt Summary**

**Wastewater and Treatment  
Debt Summary - Rate Supported**  
(\$ millions)

The Wastewater and Treatment capital budget forecast does not have debt financing in the 2014 - 2023 capital plan as highlighted below.

Projected Debt Financing (Rate Supported)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Capital Projects Funded by Rate Supported Debentures	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

As at June 30, 2013, the authorized but unissued debt was \$36.1 million with \$2.1 million of debt issued in September 2013. The outstanding debt level projected for the end of 2013 is \$79.2 million. The debt servicing budget for 2014 is \$13.7 million.

Annual Debt Servicing Costs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Rate Supported Principal and Interest Payments	13.7	13.6	13.4	13.3	12.6	12.4	12.2	11.6	8.3	7.2

**Industrial Oversizing Reserve Fund Debt:**

As at June 30, 2013, the Industrial Oversizing Reserve Fund will have approximately \$10.4 million of authorized but unissued debt. There will be no issued debt at the end of 2013. Debt servicing costs are anticipated to increase to \$1.3 million by 2017 with the issuance of the authorized debt.

Annual Debt Servicing Costs Through Industrial Oversizing Reserve Fund	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Rate Supported Principal and Interest Payments	0.0	1.1	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3

The capital financing plan that supports the 20 Year Wastewater Treatment Plan relies on rate increases of 7.0% for 2014 and 2015, and modest rate increases of 3.0% per year thereafter. This will ultimately result in reduced debt financing and continue the shift to more pay-as-you-go funding.

## Wastewater and Treatment Debt Summary - Non Rate Supported (\$ millions)

Non rate supported debt in the Wastewater and Treatment budget is funded through Development Charges (DC) in accordance with 2009 DC Background Study rather than sewer rates. The funding of this debt is identified in the reserve fund section of the 2014 Wastewater and Treatment budget.

The dependence on debt financing is subject to development charge levies. The Wastewater and Treatment capital budget forecast includes non rate supported debt financing of \$89.4 million as part of the 2014 - 2023 capital plan as highlighted below.

Projected Debt Financing (Non Rate Supported)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Capital Projects Funded by Non Rate Supported Debentures	15.7	6.7	8.6	8.0	1.6	0.7	11.8	10.0	20.8	5.5

As at June 30, 2013, the authorized but unissued debt was \$54.5 million with \$3.7 million of debt issued in September 2013. The debt level projected for the end of 2013 is \$18.8 million.

Annual Debt Servicing Costs funded through DC's	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Non Rate Supported (DC) Principal and Interest Payments	3.1	4.7	7.2	7.2	6.4	11.3	12.0	12.6	12.1	12.6

The debt projections above are based on a modest pace of spending against approved capital project budgets and the proposed capital plan, consistent with recent experience. If the pace of spending increases, debt will be issued sooner, and the total debt outstanding along with the annual debt servicing costs could exceed current projections.

The City as a whole cannot devote more than 25% of its "own source" revenues to debt repayments, and this restriction has also been applied to the Wastewater and Treatment budget in accordance with the 20 Year Wastewater Treatment Plan Principles.

## **Wastewater and Treatment**

### **2014 Schedule of Rates and Charges**

**Wastewater and Treatment  
2014 Schedule of Rates and Charges**

**Effective Date**

All 2014 approved rates and charges come into effect on January 1, 2014.

**Monthly Rates and Charges**

<u>Sanitary System Charge / Wastewater Usage Charge <sup>(1)</sup></u>	<u>2013 Approved Rates</u> (effective Jan. 1 - Feb. 28/13)	<u>2013 Revised Rates</u> (effective Mar. 1 - Dec. 31/13)	<u>2014 Approved Rates</u>
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**User Group**

Residential	\$1.77102/m <sup>3</sup>
Commercial	\$1.07489/m <sup>3</sup>
Institutional	\$0.78871/m <sup>3</sup>
Institutional over 600,000 m <sup>3</sup>	\$0.64756/m <sup>3</sup>
Industrial	\$0.72351/m <sup>3</sup>
Industrial over 600,000 and under 1.2 million m <sup>3</sup>	\$0.60763/m <sup>3</sup>
Industrial 1.2 million m <sup>3</sup> and over	\$0.51329/m <sup>3</sup>

**All Customers**

First	7 m <sup>3</sup>	\$0.00/m <sup>3</sup>	\$0.00/m <sup>3</sup>
Next	8 m <sup>3</sup>	\$1.5522/m <sup>3</sup>	\$1.6609/m <sup>3</sup>
Next	10 m <sup>3</sup>	\$1.9958/m <sup>3</sup>	\$2.1355/m <sup>3</sup>
Next	10 m <sup>3</sup>	\$2.2176/m <sup>3</sup>	\$2.3728/m <sup>3</sup>
Next	215 m <sup>3</sup>	\$0.8426/m <sup>3</sup>	\$0.9016/m <sup>3</sup>
Next	6,750 m <sup>3</sup>	\$0.7983/m <sup>3</sup>	\$0.8542/m <sup>3</sup>
Next	43,000 m <sup>3</sup>	\$0.7274/m <sup>3</sup>	\$0.7783/m <sup>3</sup>
Over	50,000 m <sup>3</sup>	\$0.6476/m <sup>3</sup>	\$0.6929/m <sup>3</sup>

(1) The Sanitary Sewer System Charge/Wastewater Usage Charge is based on metered water consumption.

**Wastewater and Treatment  
2014 Schedule of Rates and Charges**

	<u>2013 Approved Rates</u> (effective Jan. 1 - Feb. 28/13)	<u>2013 Revised Rates</u> (effective Mar. 1 - Dec. 31/13)	<u>2014 Approved Rates</u>
<b><u>Wastewater Infrastructure Charge</u></b>			
Meter Size		<u>Monthly Rate</u>	<u>Monthly Rate</u>
16 mm		\$10.38	\$11.11
19 mm		\$15.57	\$16.66
25 mm		\$25.94	\$27.76
40 mm		\$51.88	\$55.51
50 mm		\$83.01	\$88.82
76 mm		\$181.58	\$194.29
100 mm		\$311.28	\$333.07
150 mm		\$726.33	\$777.17
200 mm		\$1,245.13	\$1,332.29
250 mm		\$1,556.85	\$1,665.83
<b><u>Storm Drainage Charge</u></b>			
Residential	\$13.34 /month		
Commercial	\$16.10 /month		
Institutional	\$12.87 /month		
Institutional over 600,000 m <sup>3</sup>	\$12.87 /month		
Industrial	\$1,339.98 /hectare/year	See next page	See next page
Industrial over 600,000 and under 1.2 million m <sup>3</sup>	\$1,139.19 /hectare/year		
Industrial 1.2 million m <sup>3</sup> and over	\$1,139.19 /hectare/year		

**Wastewater and Treatment  
2014 Schedule of Rates and Charges**

<u>Storm Drainage Charge</u>	<u>2013 Revised Rates</u> (effective Mar. 1 - Dec. 31/13)		<u>2014 Approved Rates <sup>(1)</sup></u>	
	<u>Monthly Rate</u>	<u>Monthly Rate per Hectare</u>	<u>Monthly Rate</u>	<u>Monthly Rate per Hectare</u>
Residential, land area equal to or below 0.4 hectares	\$13.11		\$13.78	
Institutional, land area equal to or below 0.4 hectares	\$12.87		\$13.66	
Commercial and Industrial, land area equal to or below 0.4 hectares	\$14.96		\$14.78	
Industrial, land area above 0.4 hectares		\$105.31		\$112.68
Residential, Institutional and Commercial, land area above 0.4 hectares		\$35.10		\$75.12

(1) 2014 rates are consistent with the phase-in of the Storm Drainage Charge endorsed in principle by Council and reflected in the Wastewater and Stormwater By-law (WM-28) effective April 16, 2013, adjusted for the proposed 2014 rate increase.

**Wastewater and Treatment**  
**2014 Schedule of Rates and Charges**

	<u>2013 Approved Rates</u> (effective Jan. 1 - Feb. 28/13)	<u>2013 Revised Rates</u> (effective Mar. 1 - Dec. 31/13)	<u>2014 Approved Rates</u>
<b><u>Miscellaneous Rates and Charges</u></b>			
<b>Frontage Charge</b>	<u>Per Metre of Frontage</u>	<u>Per Metre of Frontage</u>	<u>Per Metre of Frontage</u>
Sanitary Sewer	\$193.10/m	\$193.10/m	\$206.62/m frontage
Storm Sewer - Residential	\$178.78/m	\$178.78/m	\$191.29/m frontage
Storm Sewer - All Lands excl. Residential	\$357.54/m	\$357.54/m	\$382.57/m frontage
<b>Hauled Liquid Waste Disposal</b>			
Hauled Liquid Waste excl. Leachate	\$11.00 per 1,000 litres	\$11.00 per 1,000 litres	\$11.77 per 1,000 litres
Leachate	\$20.24 per 1,000 litres	\$20.24 per 1,000 litres	\$21.66 per 1,000 litres
<b>High Strength Sewage Service Charge</b>	\$0.509/m <sup>3</sup>	\$0.509/m <sup>3</sup>	\$0.545/m <sup>3</sup>

**Wastewater and Treatment**  
**2014 Schedule of Rates and Charges**

	<b>2013 Approved Rates</b> (effective Jan. 1 - Feb. 28/13)	<b>2013 Revised Rates</b> (effective Mar. 1 - Dec. 31/13)	<b>2014 Approved Rates</b>
<b>Private Drain Connection Charges</b>			
<i>Single Detached, Semi-Detached, Duplex</i>			
<b>New PDC installation or existing PDC replacement - construction of sewer - sanitary</b>	\$2,000	\$2,000	\$2,000
<b>New PDC installation or existing PDC replacement - construction of sewer - storm</b>	\$2,000	\$2,000	\$2,000
<b>New PDC installation or existing PDC replacement - excavation</b>	\$2,400	\$2,400	\$2,400
<b>Repair or replace existing PDC - no construction</b>	\$5,000	\$5,000	\$5,000
<i>All Other Properties</i>			
<b>New PDC installation or existing PDC replacement - construction of sewer - sanitary</b>	\$4,000	\$4,000	\$4,000
<b>New PDC installation or existing PDC replacement - construction of sewer - storm</b>	\$4,000	\$4,000	\$4,000
<b>New PDC installation or existing PDC replacement - excavation</b>	\$5,000	\$5,000	\$5,000



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